
FLORA OF THE VENEZUELAN GUAYANA—IV *Julian A. Steyermark*^{1,2}

ABSTRACT

Recent expeditions in the Venezuelan Guayana to Cerro Yutajé, Murisipán-tepui, Camarcaibarai-tepui, and Cerro de la Neblina, have resulted in additional new taxa, especially in the Aquifoliaceae and Rubiaceae, of which the following are described: *Paepalanthus holstii* (Eriocaulaceae); *Rapatea chimantensis*, *Stegolepis minor* (Rapateaceae); *Rauia subtruncata*, *Raveniopsis liesneri* (Rutaceae); *Ochthocosmus micranthus* (Linaceae); *Ilex abscondita*, *I. acutidenticulata*, *I. alti plana*, *I. attenuata*, *I. brevipedicellata*, *I. cardonae*, *I. ciliolata*, *I. davidsei*, *I. glabella*, *I. gransabanensis*, *I. guaiquinimae*, *I. holstii*, *I. ignicola*, *I. jauaensis*, *I. longipilosa*, *I. magnifruta* var. *minor*, *I. marahuacae*, *I. paujiensis*, *I. polita*, *I. spathulata*, *I. summa*, *I. wurdackiana* (Aquifoliaceae); *Allophylus parimensis* (Sapindaceae); *Coussarea evoluta*, *Faramea boomii*, *F. morilloi*, *F. paludicola*, *F. yavitensis*, *F. yutajensis*, *Ferdinandusa boomii*, *Morinda longipedunculata*, *Psychotria anartiothrix*, *P. edaphothrix*, *P. pectinata*, *P. steinii*, *P. thesceloantha*, *P. yutajensis*, *Rudgea corocoroensis*, and *Sabicea bariensis* (Rubiaceae).

ERIOCAULACEAE

PAEPALANTHUS

Paepalanthus holstii Steyermark, sp. nov.

TYPE: Venezuela. Bolívar: Dist. Piar, Murisipán-tepui, summit, 5°53'N, 62°3'W, 2,300 m, 22 Mar. 1987, *Bruce Holst* 3523 (holotype, MO; isotype, VEN). Figure 1.

Herba perennis caulescens; caulibus elongatis 10–30 cm longis, parte foliacea 10–20 cm longa, dense foliosis; foliis supra argentiis, eis supremis supra sericeo-pubescentibus nitidis late lanceolatis apice prolongatis, acumine ligulato 1 mm longo, 4–5 cm longis 1–1.4 cm latis; pedunculo pubescenti; capitulis 8–10 mm diam.; bracteolis involucri atrobrunneo-nigris late triangulari-ovatis acuminatis 2–2.5 mm longis, basi 1.5 mm latis extus sericeo-pubescentibus marginibus ciliolatis intus glabris; bracteis receptaculi subligulatis apice abrupte acutis extus dense pilosis aliter glabris 2.5–2.7 mm longis 0.6–1 mm latis; bracteolis masculinis oblanceolatis obtusis dorsaliter carinatis 2.5 × 0.7 mm parte apicali extus dense pilosis; sepalis masculinis spathulatis apice rotundatis 2 mm longis 0.5 mm latis extus praeter apicem dense pilosum glabris intus glabris; corollae masculinae tubo anguste infundibuliformi 2.2 mm longo ad medium 0.7 mm lato basi 0.1 mm lato.

Perennial caulescent herb with elongated stems 10–30 cm long, the foliose portion 10–20 cm long, densely foliose. Leaves, especially the uppermost, densely silvery, sericeous and shining above, older ones glabrous both sides, many (11–17) nerved, broadly lanceolate, acute, the apex prolonged into a short, narrowly ligulate, obtuse acumen 1 mm long, 4–5 cm long, 1–1.4 cm wide, the margins densely ciliate on youngest leaves, eciliate or nearly so. Peduncles several, 10–16 cm long, 1 mm diam., several-costate, sparsely pilosulous or glabrescent except beneath the head where densely antrorsely pilose with ascending, subappressed hairs. Heads semihemispheric, 8–10 mm broad, 5 mm high. Involucral bractlets brownish black, with dark brown lower margins, the remainder black, broadly triangular-ovate, acuminate, 2–2.5 mm long, 1.5 mm broad at base, sericeous pubescent along exterior length of black middle portion, glabrous throughout within. Receptacular bracts subligulate most of length,

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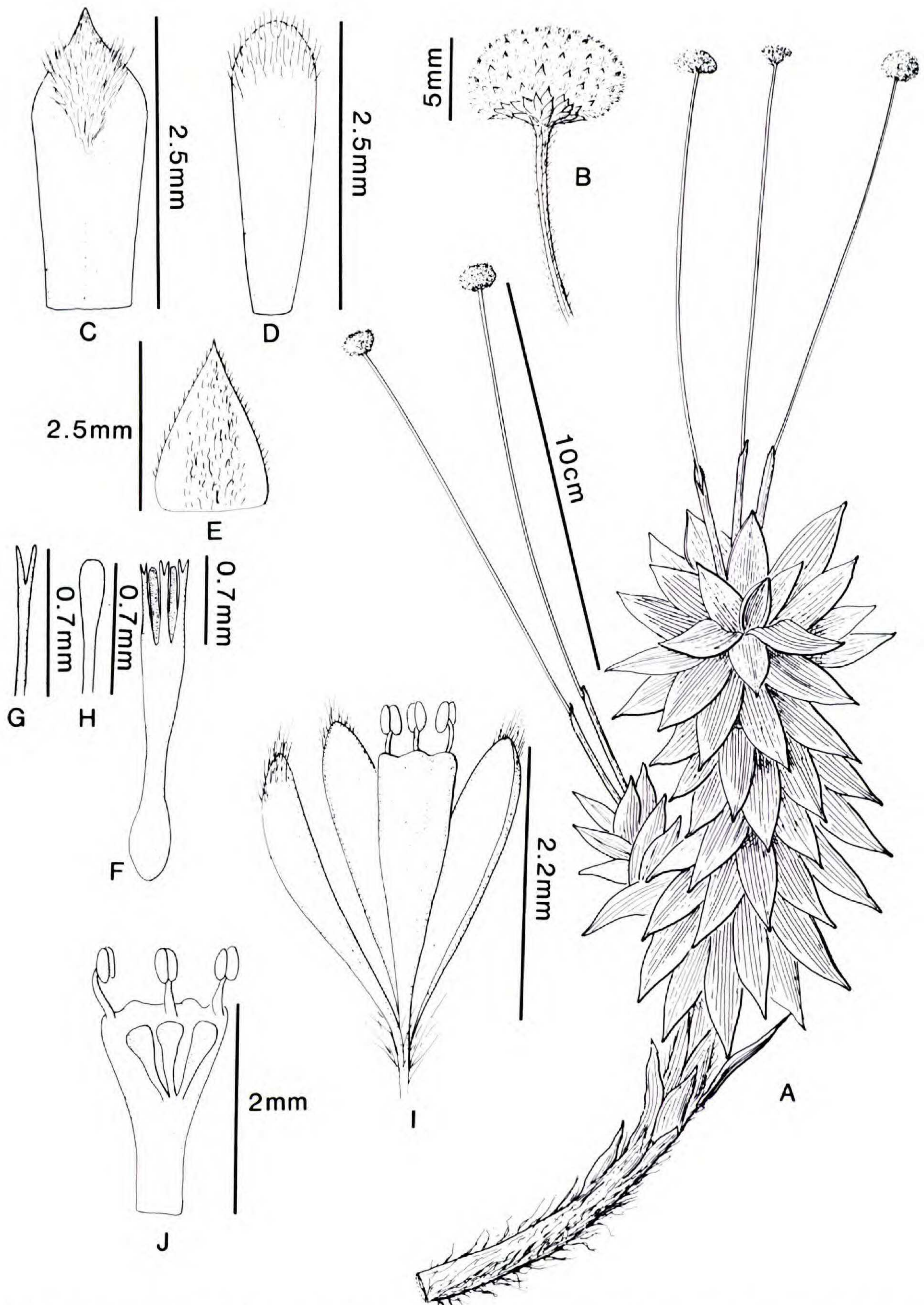


FIGURE 1. *Paepalanthus holstii*.—A. Habit.—B. Inflorescence.—C. Receptacular bract.—D. Bractlet subtending pistillate flower.—E. Outer involucre bract.—F. Pistillate flower, corolla.—G. Outer segments of pistillate corolla.—H. Inner segments of pistillate corolla.—I. Staminate flower.—J. Interior of staminate corolla.

abruptly ampliate above into a dark, acute apex, this densely pilose without, glabrous within, as is the rest of the bract, 2.5–2.7 mm long, 0.6–1 mm wide most of length.

Staminate florets: bractlet subtending flowers oblanceolate, obtuse, dorsally keeled, 2.5 mm long, 0.7 mm wide, densely villous without with erect villous hairs in apical portion, gla-

brous within. Staminate sepals separate, spatulate, rounded at apex, 2 mm long, 0.5 mm wide, densely villous within with long, erect hairs, glabrous on most of outer surface without except for long hairs around apex. Staminate corolla narrowly infundibuliform, gradually widened upward, 2.2 mm long, 0.7 mm wide above, 0.1 mm wide at base; stamens 3; anthers 0.2 mm long; filaments 0.2 mm long. Pistillate florets: corolla narrowly cylindrical, 2.8 mm long, tubular, upper part 1.8 mm long, constricted to the ovary, 0.2 mm wide, outer segments linear, bifid at apex, 0.7 mm long, 0.1 mm wide, inner ones spatulate, truncate, 0.8 mm long.

This beautiful species with silvery foliage is well marked by its short, ovate-lanceolate leaves with a prolonged obtuse apex. From *Paepalanthus macrocaulon* Mold. var. *venamoensis* Mold. it differs in the densely sericeous median outer portion of the involucre bracts and shorter, silvery-sericeous upper surface of the younger leaves, while from *P. roraimensis* Mold. it is distinguished by the pubescent peduncle, involucre bracts pubescent throughout their median length outside, and the densely sericeous-silvery upper surface of the uppermost leaves.

It is a pleasure to name this species after Bruce K. Holst, who succeeded in collecting plants from the previously unexplored Murisipán-tepui and Aparamán-tepui.

RAPATEACEAE

RAPATEA

Rapatea chimantensis Steyermark, sp. nov. TYPE: Venezuela. Bolívar: Chimantá Massif, lower southwestern slopes of Chimantá-tepui (Torono-tepui), 1,000 m, 24 May 1953, *Julian A. Steyermark 75584* (holotype, VEN; isotypes, MO, NY). Figure 2.

Planta herbacea terrestris ca. 1-metralis; vaginis 22–25 cm longis late alatis, parte superiore 7 cm anguste alata utroque latere 2–3 mm lato, basim versus una latere 20–30 mm lato; laminis basi abrupte constrictis late li-

neari-ligulatis apice tenuiter acuminatis basi abrupte cordatis 1.3 mm longis, 9–11.5 cm latis supra valde plicatis nervis primariis 35–45 elevatis acutis papillato-puberulentibus, subtus cristis rotundatis 1–1.5 mm latis dense papillato-puberulentibus; costa valde conspicua basim versus 3–4 mm lata; pedunculo 43 cm longo infra apicem 20 mm lato alibi 6 mm lato parte suprema 15 cm anguste alato 1–2 mm lato; capitulo subreniformi subcompresso semisphaerico 7 cm lato; spiculis numerosis 17–18 mm longis brevipedicellatis; bracteis involucrelibus duobus anguste lanceolatis longiacuminatis basi late expansis 25 cm longis in dimidio superiore 15–17 mm latis basi 70 mm latis; bracteolis vix gradatis apice abrupte apiculatis 18 mm longis.

Terrestrial herbaceous plant ca. 1 m tall; leaf sheaths 22–25 cm long, broadly winged, upper 7 cm narrowly winged 2–3 mm wide on each margin, the wing widening below to 20–30 mm wide on one side; leaf blades erect-ascending, subcoriaceous, dull green above, silvery green below, abruptly constricted at the base, broadly ligulate-linear, slenderly acuminate at the apex, abruptly cordate at the base, 1.3 mm long, 9–11.5 cm wide, conspicuously plicate on upper surface with 35–45 elevated acute nerves on either side of the midrib separated by broad depressions 1–2 mm wide, papillate-puberulent, the lower surface with 42–49 rounded, shallowly convex ridges 1–1.5 mm wide, densely papillate-puberulent; midrib 3–4 mm wide below. Peduncle 43 cm long, 6 mm wide except at the expanded summit where 20 mm wide, finely costate, narrowly winged 1–2 mm wide in the uppermost 15 cm. Flowering head subcompressed, subhemispheric, 7 cm wide. Involucre bracts narrowly lanceolate, slenderly acuminate at the apex, broadly expanded at base, 25 cm long, 15–17 mm wide in upper half, 70 mm wide at base, three times longer than wide. Bracteoles submembranous, scarcely or not graduate, lanceolate, 18 mm long, the outer ones 18 × 3 mm, about equaling the spikelets, abruptly acuminate-pungent at the 3-nerved apex, the apiculate portion 1–2 mm long; other bracteoles subequal, ligulate-lanceolate, 12–14 × 4 mm with a cusp 1 mm long. Spikelets numerous, shortly pedicellate, 17–18 mm long. Sepals lanceolate, cuspidate, 9 × 2.5–3 mm. Anthers linear, bilobed at base, the connective triangular-lanceolate, acuminate, 2 mm long, the thecae

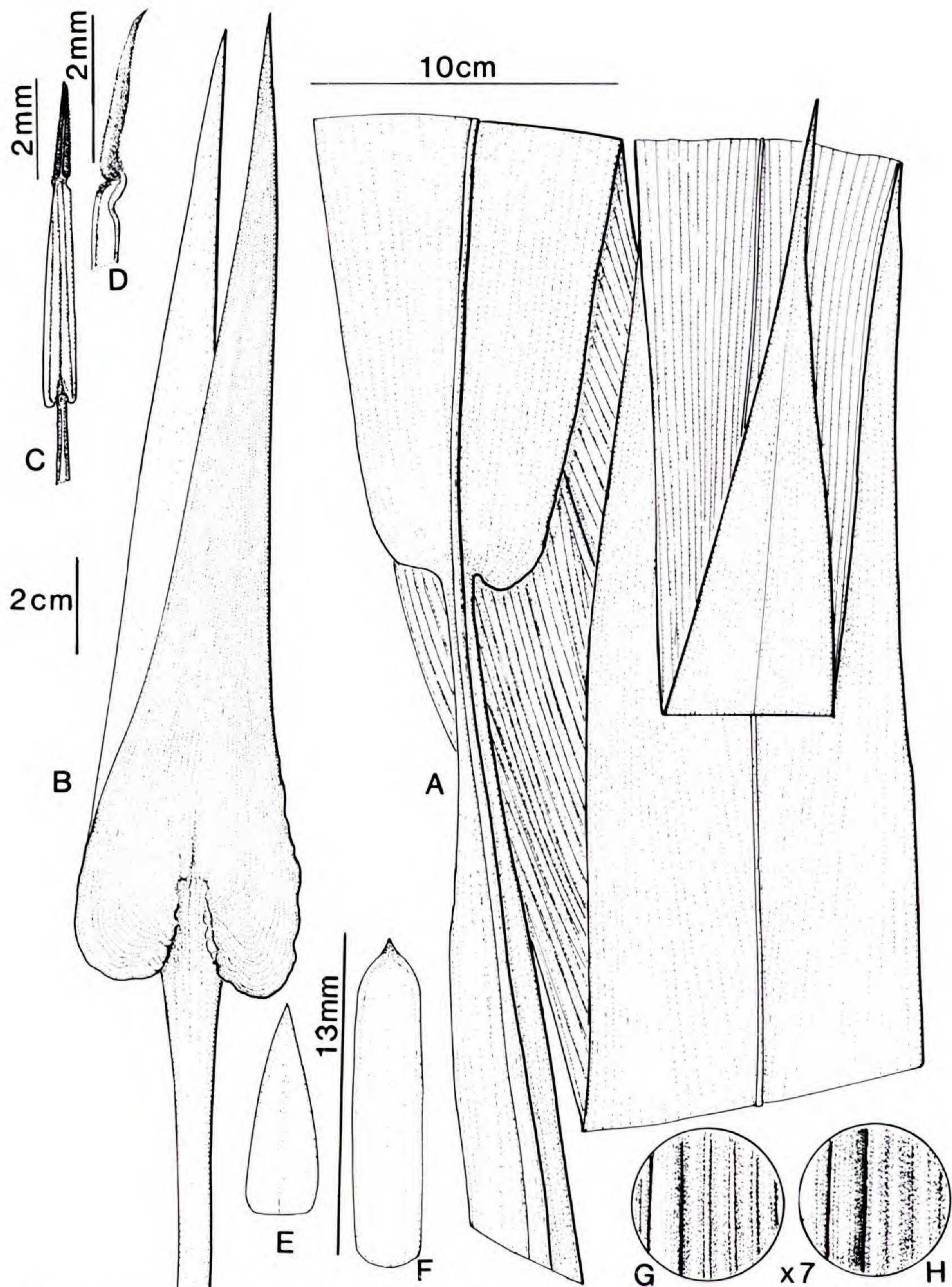


FIGURE 2. *Rapatea chimantensis*.—A. Leaf blade and sheath.—B. Habit of cephalar bract with upper portion of peduncle.—C. Stamen, abaxial view.—D. Upper part of anther with connective, lateral view.—E. Sepal.—F. Outer bracteole.—G. Detail of upper leaf surface.—H. Detail of lower leaf surface.

4.5–5 mm long, 0.7 mm wide toward the apex, 1 mm wide at base; filaments 2 mm long.

This taxon resembles *Rapatea fanshawei* Maguire but differs in having much longer involucre bracts which are more prominently narrowed above the base, longer, more narrowly winged peduncles, and outer bracteoles about equaling the spikelets. There are further differences in the leaf surfaces. In *R.*

fanshawei the lower leaf surface has acutely elevated lines of nerves, whereas those of *R. chimantensis* have the nerves shallowly convex with rounded ridges. Moreover, the upper leaf surface of *R. chimantensis* has nerves more strongly elevated and more widely spaced than those in *R. fanshawei*. The leaf blades are longer and wider in *R. chimantensis*. Although related to *R. fanshawei*, the relatively equal length of the bractlets would ally the new taxon to *R. steyermarkii* Maguire.

STEGOLEPIS

Stegolepis minor Steyermark, sp. nov.

TYPE: Venezuela. Bolívar: Sierra de Lema, cabeceras del Río Chicanán, 80 km (en línea recta) al suroeste de El Dorado, 6°5'N, 62°W, 500 m, on banks and bluffs at base of uppermost waterfall of headwaters of Río Chicanán at base of high NE-facing sandstone bluffs, 28 Aug. 1961, *Julian A. Steyermark 89577* (holotype, VEN; isotype, NY).

Herbae perennes 0.5–0.6-metralis; vaginis subinduratis valde nervatis 14–25 cm longis 7 cm latis, valde scarioso-marginatis auriculus rotundatis; laminis ubique viridibus late linearibus apice subfalcate acutis 60 cm longis 6.5 cm latis tenuiter nervatis, costa subtus supra elevato; pedunculo apice subcompresso 1.5–2.5 mm lato sub apice 2.5–4 mm dilatato; capitulis compressis 13–14-floris 1.5 cm altis 2.3–3 cm latis; spiculis 13–14, lanceolato-ellipticis, sepalis inclusis 11–12 mm longis 3–5 mm latis; bracteolis castaneis subfructu laxe patentibus inferioribus late triangularibus acutis vel acuminatis carinatis 2–3.5 mm longis 1.5–2.5 mm latis medianis superioribusque lineari-lanceolatis acuminatis ecarinatis 5–8 mm longis 1.5–2.5 mm latis; sepalis sub fructu erectis haud deflexis anguste lanceolatis acutis 9–10 mm longis 2.5 mm latis.

Perennial herbs 0.5–0.6 m tall. Leaf sheaths subindurated, strongly nerved, 14–25 cm long, 7 cm wide, the margins broadly scarious, the auricles rounded. Leaf blades deep green both sides, broadly linear, subfalcately acute at apex, 60 cm long, 6.5 cm wide, finely nerved; midrib elevated above. Peduncle 0.5–0.6 mm long, subcompressed, 1.5–2.5 mm wide, 2.5–4 mm wide below the dilated apex. Heads compressed, 13–14-flowered, 1.5 cm high, 2.3–3 cm broad. Spikelets 13–14, lance-elliptic, 11–12 mm long including the sepals, 3–5 mm wide. Bracteoles castaneous-brown, spreading loosely in fruit, the lower ones broadly triangular, acute to acuminate, carinate, 2–3.5 mm long, 1.5–2.5 mm wide, the middle and upper bracteoles linear-lanceolate, acuminate, ecarinate, 5–8 mm long, 1.5–2.5 mm wide. Fruiting sepals erect, not deflexed, narrowly lanceolate, acute, 9–10 mm long, 2.5 mm wide.

The type specimen was previously identified by Maguire as “probably *Stegolepis ferruginea*.” That taxon and the related *S. stey-*

ermarii Maguire, however, have essentially globose, noncompressed heads. *Stegolepis minor* is related to *S. ptaritepuiensis* Steyermark and *S. celiae* Maguire. From *S. ptaritepuiensis* the new taxon differs in having much smaller heads and spikelets, and much broader leaves with a conspicuous elevated midrib on the upper surface. It is distinguished from *S. celiae* by the smaller heads with fewer, shorter spikelets, slenderer peduncles, conspicuous upper midrib, and conspicuously nerved, subindurate leaf sheath.

RUTACEAE

RAUIA

Rauia subtruncata Steyermark, sp. nov.

TYPE: Venezuela. Bolívar: 20–25 km SW of Manteco, on road to San Pedro de las Dos Bocas, 7°10'N, 62°55'W, 200 m, 1–3 Aug. 1978, *Ronald Liesner & Angel González 5991* (holotype, VEN; isotype, MO). Figure 3.

Arbor 6-metralis, foliorum laminis elliptico-ovatis vel oblongo-ellipticis abrupte longiacuminatis 10.5–23 cm longis 4–9.5 cm latis, nervis lateralibus utroque latere 9–10 subtus elevatis supra sulcatis, venulis tertiariis supra inconspicuis; calyce campanulato 4.5 mm longo summo 3 mm lato basi 1.8 mm lato truncato; corolla alba cylindrica 18 mm longa, tubo 8–9 mm longo basi 2 mm lato extus dense brevistrigilloso sub anthesi sine glandulis nigris, lobis 7–8 mm longis 1–1.5 mm latis; staminodiis tribus subulatis 9 mm longis; antherae fertilis connectivo late lanceolato attenuato 1.5 mm longo 0.4 mm lato minute pulverulento.

Tree 6 m tall; stems glabrous or with sparingly evanescent, minutely appressed, scattered pubescence. Leaves alternate or rarely opposite, 1-foliolate; leaf blades elliptic-ovate or oblong-elliptic, abruptly long-acuminate, the acumen 2 cm long, acute at base with 2 thickened glands at junction with petiole, 10.5–23 cm long, 4–9.5 cm wide, glabrous both sides; lateral nerves 9–10 each side, ascending at a 45° angle, elevated below, inconspicuous and slightly impressed above; tertiary venation conspicuous below, reticulate and slightly elevated, above slightly less manifest. Inflorescences terminal, corymbose-paniculate, many-flowered, 4–7.5 cm long, 4–8.5 cm wide, long pedunculate, with

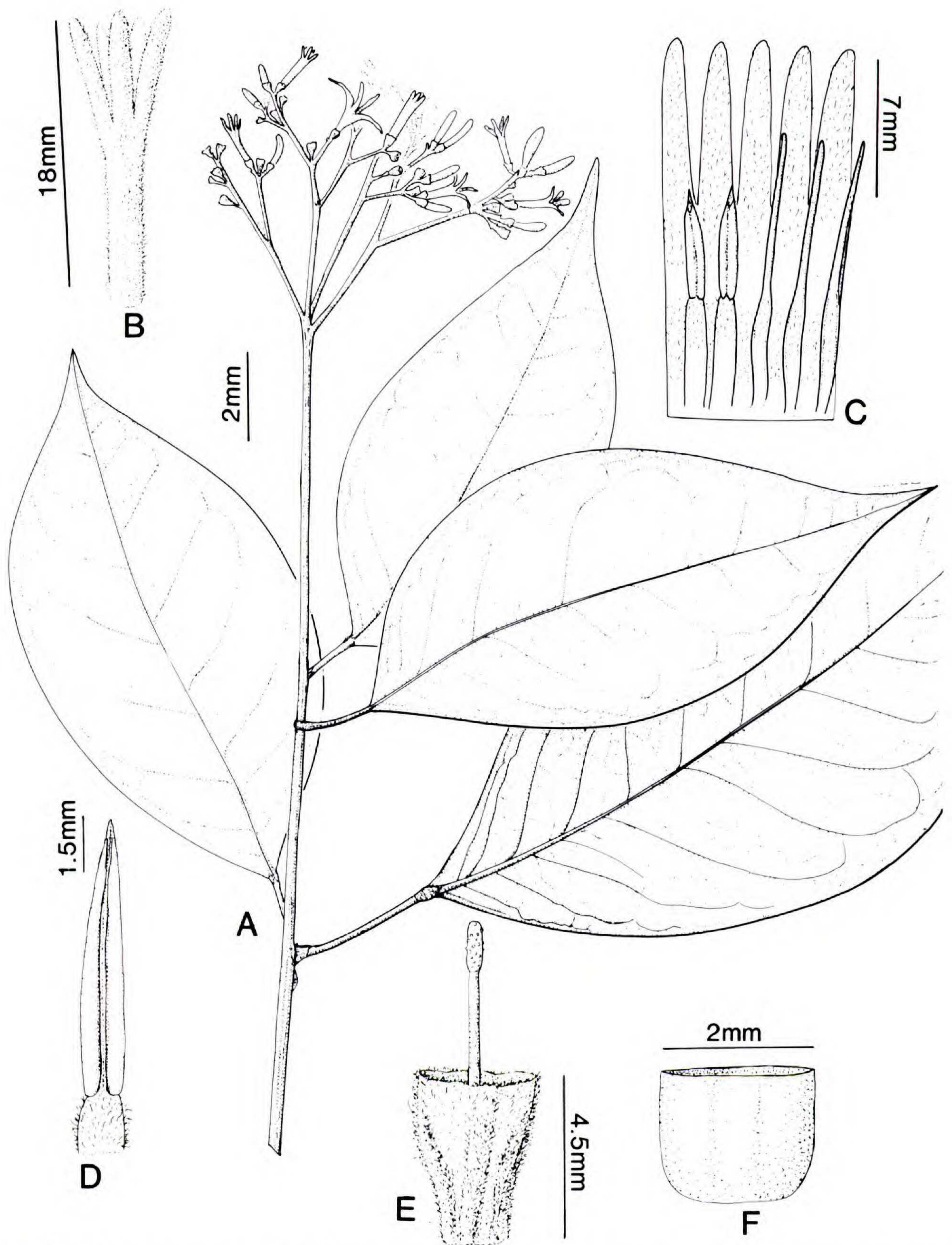


FIGURE 3. *Rauia subtruncata*.—A. Habit of flowering branch.—B. Corolla, before anthesis.—C. Interior of corolla, showing two fertile anthers and three staminodia.—D. Anther with upper portion of filament.—E. Calyx.—F. Disk.

2–4 unequal, main dichasially branched axes; each dichasium cymosely flowered; peduncle elongated, 7–11 cm long, 2–3 mm diam., glabrous to shortly appressed-pubescent below the axes of the inflorescence; each main

axis 1.5–4 cm long in unbranched portion, 1–1.5 mm wide, longitudinally striate, densely appressed-pubescent with buff hairs; calyx thick textured, obtusely 5-angulate, campanulate, 4–5 mm long, 3 mm wide at summit

where subtruncate or barely subundulately toothed, constricted 1.5 mm above base, 1.8 mm wide at base, densely appressed without with congested buff pubescence, glabrous within, with scattered black, resinous glands; corolla white, cylindric, 18 mm long, 2 mm wide at base, densely short-strigillose without, in anthesis lacking black resinous glands, the tube 8–9 mm long, densely pilosulous within for 4 mm between the filaments and staminodia, glabrous in the basal 2 mm; lobes 5, thickish, linear-ligulate, subobtuse, 7–8 mm long, 1–1.5 mm wide, minutely pilosulous within; fertile anthers 2, curved, 4.8 mm long, 0.6–0.7 mm wide including the connective; connective lanceolate, attenuate, 1.5 mm long, 0.4 mm wide; filaments united to the tube 4 mm above its base, free for 1–2 mm, glabrous in lowest 3 mm, densely pubescent in upper half; staminodia 3, subulate, free for 9 mm, attached to tube 6 mm from base, pilosulous but glabrous in uppermost 4 mm, glabrous ventrally, pilosulous dorsally; disk cupular, 1.8 mm long, 2 mm wide, slightly undulate at the truncate summit; ovary 1.2 mm high, 1.5 mm broad, glabrous.

This species differs from *Rauia resinosa* Nees & C. Martius in having a longer, broader calyx which is subtruncate at the summit, longer and broader corolla lobes and corolla tube, three instead of five staminodia, lance-attenuate prolonged connective of the fertile anthers, proportionately broader leaf blades, less elevated lateral nerves on the lower surface and less sulcate on the upper surface, and more evident tertiary venation of the upper surface.

RAVENIOPSIS

Raveniopsis liesneri Steyermark, sp. nov.

TYPE: Venezuela. Territorio Federal Amazonas: Depto. Río Negro, Cerro de la Neblina, Camp 4, 15 km NNE of Pico Phelps, N branch of river in canyon, 0°51'N, 65°57'W, 780 m, 15–18 Nov. 1984, *Ronald Liesner 16605* (holotype, MO; isotype, VEN). Figure 4.

Caules stellato-pubescentes, foliis trifoliatis; calycis lobis ovato-oblongis apice late rotundatis 2–3 mm longis 1–1.5 mm latis stellato-pubescentibus; corolla cylindrico-infundibuliformi 17–19 mm longa summo 4.5–5 mm lata basi 2–2.5 mm lata stellato-pubescenti; staminodiis tribus subulatis 1.8 mm longis 0.1 mm latis inaequalibus; stylo 8–12 mm longo glabro.

Shrub 1 m tall, stems stellate-pubescent with the branched stellate hairs closely aggregated in the lower part of the main axis. Leaves trifoliate, the terminal leaflet the largest, symmetric, subacute to obtuse at apex, 2.5–6.5(–8) cm long, 1.2–2.5 cm wide, glabrous above except for the stellate midrib and lateral nerves, densely white stellate beneath, the pubescence concealing the surface; lateral nerves sulcate above, slightly elevated below, 7–9 each side, ending at the margins; petiolule of terminal leaflet 5–15 mm long, stellate; lateral leaflets mainly asymmetric, oblique at base, oblanceolate to oblong, subacute to obtuse at apex, 2.5–5.5 cm long, 1–2 cm wide, the lower side rounded at base, the upper side acute; lateral nerves 5–7 each side; petiolule of lateral leaflets 1–3 mm long or subsessile; petiole 0.5–3 cm long, densely stellate-pubescent. Inflorescence axillary or terminal, dichasial, the axes unilaterally racemose, 1.5–6 cm long, densely stellate-pubescent; peduncle 4–4.5 cm long, densely stellate-pubescent; terminal flower present or absent at apex of peduncle. Calyx 5 mm long, the tube 3 mm long, 1.5 mm wide at base, 3.5 mm wide at junction with calyx lobes; calyx lobes 5, slightly unequal, ovate-oblong, broadly rounded at apex, 2–3 mm long, 1–1.5 mm wide, the larger lobe 1.5 mm wide, the others 1 mm wide. Corolla straight or nearly so, or very slightly curved in bud, cylindric-infundibuliform, 17–19 mm long, 2–2.5 mm wide at base, 4.5–5 mm wide at summit, stellate-pubescent externally, within minutely pubescent in lines in the lower $\frac{1}{3}$ below the staminodia; longer corolla lobes ovate-oblong, rounded at apex, 3.5–4 mm long, 2–2.5 mm wide; 3 shorter lobes ovate-oblong, rounded at apex, 2 mm long, 1.2 mm wide; 3 staminodia subulate, 1.8 mm long, 0.1 mm wide, one of them shorter than the other two. Fertile anther narrowly oblong,

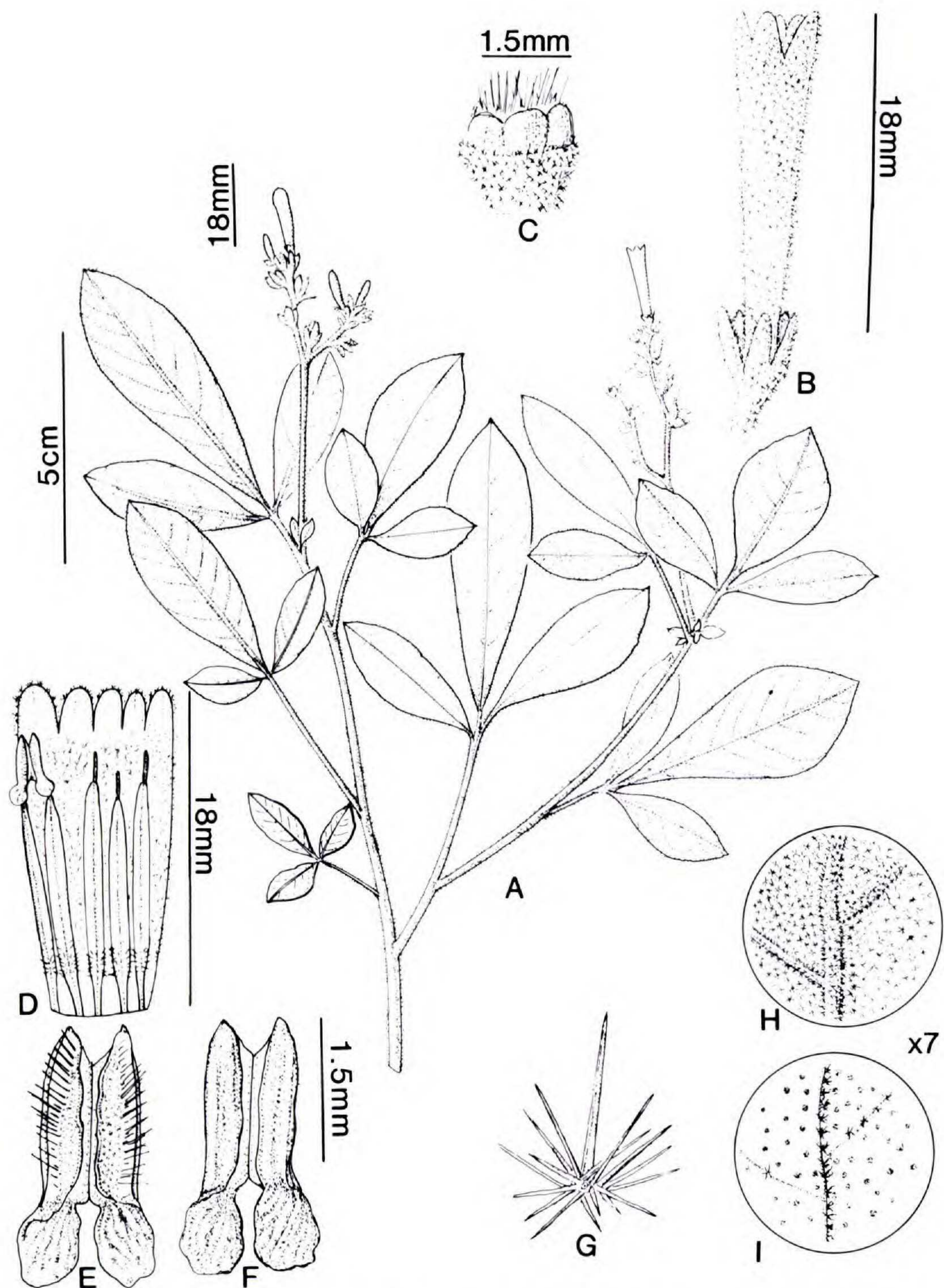


FIGURE 4. *Raveniopsis liesneri*.—A. Habit of flowering branch.—B. Flower.—C. Disk with upper part of ovary and receptacle.—D. Interior of corolla, showing two fertile stamens and three staminodia.—E. Fertile stamens, abaxial view.—F. Fertile stamens, adaxial view.—G. Stellate hair from stem.—H. Enlarged section of lower portion of leaf surface.—I. Enlarged section of upper portion of leaf surface.

minutely mucronate at apex, 2.5 mm long, glabrous; basal appendages suborbicular, rounded, venose, 1 mm long, 1 mm wide. Style 8–12 mm long, glabrous; ovary pilose; disk cupular, 0.75 mm high, 1.5 mm diam.

This species is related to *Raveniopsis stelligera* Cowan of Cerro Duida and Yutajé. It differs in the small corollas, more narrowly oblong, rounded calyx lobes, shorter staminodia, and shorter style. Five species and one

variety of the genus are now recorded from Cerro de la Neblina.

LINACEAE

OCHTHOCOSMUS

Ochthocosmus micranthus Steyermark, sp. nov. TYPE: Venezuela. Bolívar: Ayavaparú, 10 km southwest of Wadacapiap, 5°18'N, 60°58'W, 1,100 m, 13 Nov. 1986, *Lionel Hernández 348* (holotype, MO; isotype, VEN). Figure 5.

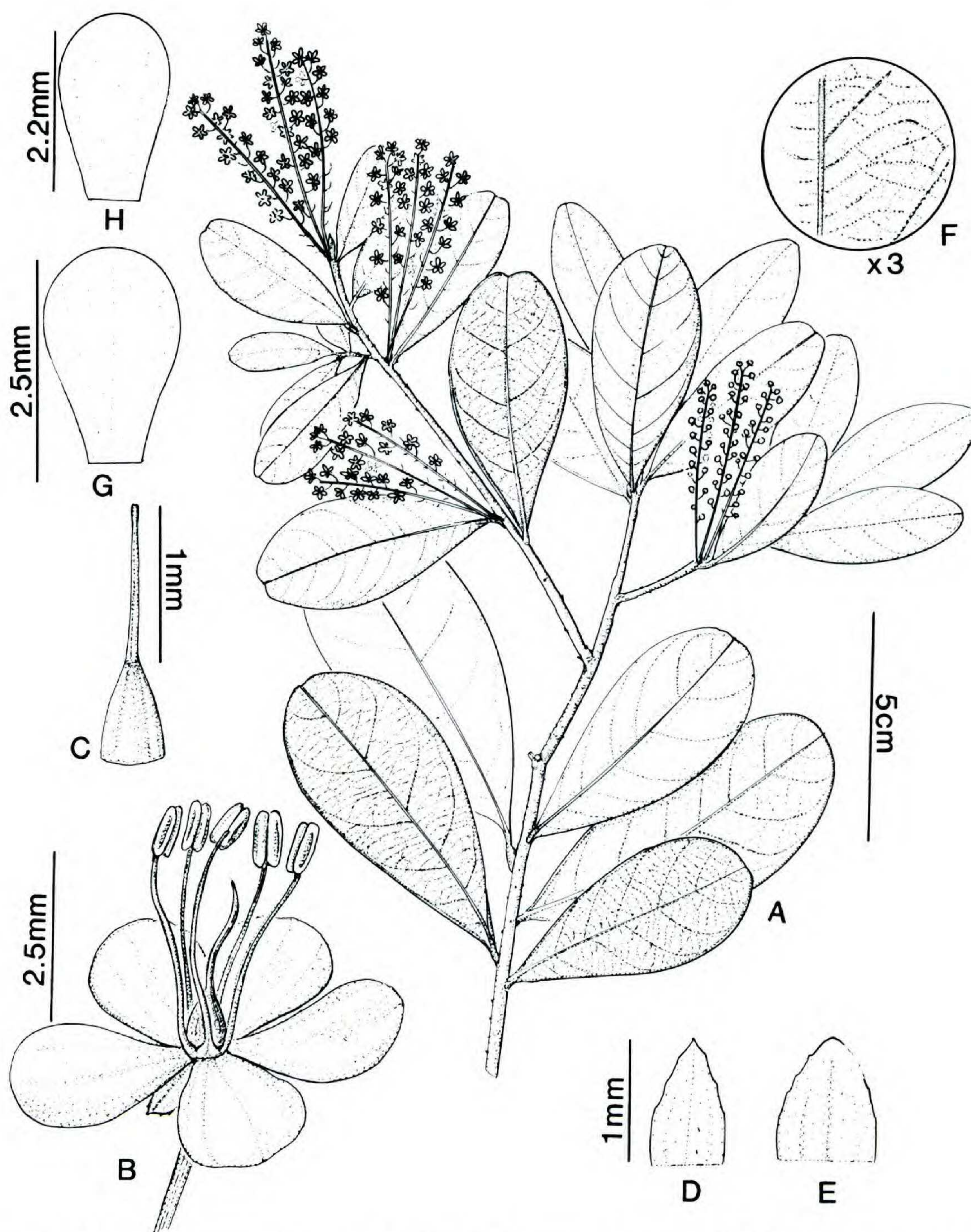


FIGURE 5. *Ochthocosmus micranthus*.—A. Habit of flowering branch.—B. Habit of flower.—C. Pistil.—D. Sepal with acute apex.—E. Sepal with obtuse apex.—F. Portion of lower leaf surface, enlarged.—G. Larger petal.—H. Smaller petal.

Frutex 1.3 metralis glaber; foliis obovatis apice rotundatis interdum paullo retusis basi cuneatim acutis 4.2–7.5 cm longis 2–3.5 cm latis integerrimis glabris subrevolutis; costa supra elevata; nervis lateralibus utroque latere 4–8; venulis tertiariis subtus tenuiter reticulatis; petiolis 2–5 mm longis; inflorescentia fasciculatis axillaribus racemosis 3.5–5.5 cm longis 7–9 mm latis; pedicellis filiformibus 3–3.5 mm longis; bracteis sub pedicellis lanceolato-subulatis vel lanceolatis 1 mm longis apice appendice fuscata praeditis deciduis; floribus parvis, sepalis quinque parum inaequalibus oblongo-ovatis apice subobtusis raro subacutis 1–1.5 mm longis 0.7 mm latis plerumque integris praeter aliquot apicem versus 1–2 prominentibus; petalis leviter inaequalibus majoribus late obovatis rotundatis 2.5 × 1.7 mm, minoribus oblongo-ovatis rotundatis 2.2 × 1.3 mm; antheris oblongis 0.8 mm longis, filamentis 3 mm longis; ovario ovoideo-conico 0.7 × 0.7 mm, stylo 1 mm longo.

Glabrous shrub 1.3 m tall. Leaves crowded near the summit of the branchlets, subcoriaceous, obovate, rounded or slightly retuse at apex, cuneately acute at the base, 4.2–7.5 cm long, 2–3.5 cm wide, entire, glabrous, subrevolute; midnerve elevated above and below; lateral nerves 4–8 each side, arcuate-ascending at a 30–45° angle, anastomosing near the margins, impressed above, slightly elevated below; tertiary venation finely reticulate and elevated below, impressed above. Inflorescence fasciculate, axillary in the upper leaf axils with usually 3 peduncles, racemose, 3.5–5.5 cm long, 7–9 mm wide; pedicels

filiform, 3–3.5 mm long. Bracts subtending pedicels lance-subulate or lanceolate, 1 mm long with a darkened attenuate apical projection. Flowers small for the genus. Sepals 5, slightly unequal, hyaline, oblong-ovate, subobtuse or one of them sometimes acute or subacute at the apex, 1–1.5 mm long, 0.7 mm wide, mainly entire, but with one or two of them with minute projections toward the apex. Petals slightly unequal, the larger broadly obovate and rounded at apex, 2.5×1.7 mm, the smaller ones oblong-obovate, rounded, 2.2×1.3 mm. Stamens 5; anthers oblong, 0.8×0.3 mm; filaments 3 mm long. Ovary ovoid-conic, 0.7×0.7 mm, style erect for 1 mm, then spreading upwardly 0.5–0.8 mm long. Fruit not seen.

Paratype. VENEZUELA. BOLÍVAR: same locality as type, 15 Nov. 1986, *Hernández* 359 (VEN).

This species is distinguished from the other known members of the genus by its smaller petals and sepals. The entire leaves with non-thickened, eglandular margins of the sepals are additional distinguishing characters. In the key to species previously published (Steyermark & Luteyn, 1980), *Ochthocosmus micranthus* would fall into the group including *O. multiflorus* and *O. longipedicellatus*.

LITERATURE CITED

STEYERMARK, J. & J. LUTEYN. 1980. Revision of the genus *Ochthocosmus* (Linaceae). *Brittonia* 32(2): 128–143.

AQUIFOLIACEAE

Since the treatment of *Ilex* by Edwin (1965) for *Botany of the Guayana Highland*, in which 55 taxa were treated, including 22 new species and seven varieties, many additional collections resulting from expeditions into this region have accumulated. A study of these new collections of *Ilex* have yielded a large number of new taxa. For the examination of types and other critical material, the author wishes to thank the curators of the herbaria of F, NY, and US for their courtesy in making these loans and gifts available.

One of the difficulties in studying the genus

has been that a fair number of new taxa are based on either fruiting material or on staminate or pistillate specimens only. Furthermore, some of the descriptions by Edwin included references to so-called black pubescence on various parts of the plant. However, a careful examination of the type material of these “pubescent” specimens reveals that the so-called black trichomes are only artifacts consisting of fungal hyphal threads. This has been verified by Dr. Richard Harris of the New York Botanical Garden (pers. comm.). Added to the difficulties are differences in the position and type of inflorescence of the staminate and pistillate plants, the latter often having axillary solitary inflorescences only, whereas the staminate plants may bear either axillary fasciculate, or axillary solitary and lateral inflorescences. The terminology used in the present description for the inflorescences is that employed and illustrated by Edwin (1965, fig. 26). Another difficulty in the examination of herbarium material is the interpretation of the punctate or epunctate lower leaf surface. It is possible to misinterpret a leaf surface that appears dotted with dark punctations only to discover that such dots represent merely artifacts of lichens or fungi. This difficulty is well exemplified in the interpretation by Loesener (1901) of the lower surface of the leaf of *Ilex vacciniifolia* Klotzsch (p. 22, loc. cit.). In this case, Loesener interpreted the black dots as fungi, but an examination of conspecific material collected at the type locality and elsewhere indicates that the dots represent actual punctations.

ILEX

Ilex abscondita Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Cerro de la Neblina, Camp 7, south slopes of Cañon Grande, $0^{\circ}55'N$, $66^{\circ}0'W$, 1,900 m, 30 Nov. 1984, *Croat* 59478 (holotype, MO; isotypes, NY, VEN).

Frutex vel arbor 3–5 metralis; foliis late obovatis apice rotundatis basi cuneatis 5.5–9 cm longis 4–6 cm latis integerrimis glabris subtus punctatis, costa leviter sulcata

intus minute puberulenti; nervis lateralibus utroque latere 5–7 supra sulcatis intus minute puberulentibus; venatione tertiaria subtus obsoleta; petiolis 7–13 mm longis glabris; inflorescentiis masculinis axillaribus lateralibusque, foemineis axillaribus solitariis; pedunculis minute puberulis, fructiferis 6.5–11 mm longis; baccis immaturis 7–9 mm longis 6 mm diam.

Shrub or tree 3–5 m tall. Leaves subcoriaceous, broadly obovate, broadly rounded at apex, cuneate at the base, 5.5–9 cm long, 4–6 cm wide, entire, glabrous, revolute, entire, glabrous, dark punctate beneath; mid-nerve shallowly sulcate above with a minute puberulence within; lateral nerves 5–7 on each side, sulcate above with a minute puberulence within. Petioles 7–13 mm long, glabrous. Staminate inflorescence axillary and lateral, 3-flowered. Pistillate inflorescence axillary, solitary. Peduncle and pedicels minutely puberulent, the fruiting peduncle 6.5–11 mm long. Immature fruit ovoid, 7–9 mm long, 6 mm diam.

Paratype. VENEZUELA. Same locality and date as type, *Croat 59500* (MO, VEN).

This species differs from *Ilex sipapoana* Edwin in the broader obovate leaves rounded and broadest at summit and in the absence of tertiary venation on the lower surface. The new taxon differs from *I. magnifructa* Edwin in the longer petioles, sulcate puberulent interior of the lateral nerves of the upper leaf surface, and the shorter fruiting pedicels.

***Ilex acutidenticulata* Steyermark, sp. nov.**

TYPE: Venezuela. Territorio Federal Amazonas: Dept. Atabapo, Cerro Marahuaca, below Salto Los Monos on tributary of headwaters of Río Iguapo, 3°35'N, 65°23'W, 1,500–1,650 m, 12 Mar. 1985, *Ronald Liesner 18595* (holotype, MO; isotype, VEN). Figure 6B.

Arbor 3–8-metralis; foliis lanceolato-ellipticis vel elliptico-oblongatis apice acutis vel abrupte acuminatis basi acutis 5–8.5 cm longis 1.5–3 cm latis, marginibus superioribus 1–3-denticulatis, glabris subtus minute punctatis, nervis lateralibus utroque latere 5–7 paullo adscendentibus; petiolis 8–10 mm longis glabris; infructescentiis axillaribus lateralibusque solitariis fasciculatisque; pedicellis 3–5 mm longis; baccis globosis 5 × 5 mm; pyrenis dorsaliter unicanaliculatis.

Tree 3–8 m tall. Leaves lance-elliptic or elliptic-oblongate, acute to abruptly acuminate at apex, acutely narrowed at base, 5–8.5 cm long, 1.5–3 cm wide, upper 1/4–1/3 part of the margins with 1–3 slender, acute teeth, glabrous, minutely punctate beneath; lateral nerves 5–7 each side, slightly ascending at 25–30° angle, slightly elevated below; tertiary venation slightly manifest below. Infructescence axillary and lateral, solitary and fasciculate, fruiting pedicels 3–5 mm long, minutely puberulent. Fruit globose, 5 × 5 mm. Immature pyrenes dorsally 1-canaliculate.

Paratype. VENEZUELA. TERRITORIO FEDERAL AMAZONAS: Cerro de la Neblina, Camp 7, south slopes of Cañon Grande, along river below camp, 0°55'N, 66°0'W, 1,800 m, 29 Nov. 1984, *Croat 59450* (MO, VEN).

From *Ilex microdonta* Reissek of southern Brazil the new taxon differs in having fewer and smaller teeth confined to the upper leaf margins, punctate lower leaf surface, less ascending lateral nerves, and shorter pedicels. It is distinguished from *I. karuaiana* Edwin by the fewer, sharper teeth, less prominently reticulate upper leaf surface, and shorter pedicels.

***Ilex altiplana* Steyermark, sp. nov. TYPE:**

Venezuela. Bolívar: between San Ignacio de Yuruani and San Francisco de Yuruani, bordering small stream between km 251.5 and 253 south of El Dorado on road to Santa Elena, 1,200 m, 4 Jan. 1975, *Julian A. Steyermark 111402* (holotype, VEN).

Arbor 3–20-metralis, ramulis superne minute puberulis glabrescentibus; foliorum laminis elliptico-ovatis vel oblongo-ellipticis apice abrupte acutis vel acuminatis utrinque glabris, costa media subtus interdum minute sparsimque puberulenti excepta; petiolis 3–7 mm longis minute puberulentibus vel glabris; inflorescentia foeminea solitaria axillari lateralique, pedicellis 4.5–9 mm longis subanthesi minute puberulis sub fructu glabris; stigmatibus elongato late tholiformi 1 mm longo; fructu subgloboso 4–5 × 4–5 mm, pyrenes quattuor dorsaliter unisulcatis.

Tree 3–20 m tall, upper part of stems minutely pubescent or glabrescent in age. Leaves subcoriaceous or firmly membranous, ovate- or oblong-elliptic, abruptly acute or

acuminate at apex, acute at base, 4–6.5 cm long, 2–2.5 cm wide, epunctate, glabrous both sides except minutely and sparsely puberulent on the lower midrib of younger leaves; lateral nerves 4–8 on each side, inconspicuous, slightly ascending, not sulcate on upper side; midrib sulcate above, slightly elevated below. Petioles 3–7 mm long, minutely puberulent or glabrous. Pistillate inflorescence solitary, axillary and lateral, 1–4-flowered; pedicels 4.5–9 mm long, minutely puberulent in anthesis, glabrous in fruit. Stigma broadly dome-shaped, elongated, conspicuous, 1 mm long. Fruit subglobose, 4–5 × 4–5 mm, glabrous. Pyrenes 4, brown, trigonous, 3.5 mm long, 2 mm wide, dorsally unisulcate.

Paratypes. VENEZUELA. BOLÍVAR: Gran Sabana, 152 km south of El Dorado, 1,350–1,400 m, 20 Dec. 1970, *J. Steyermark, G. C. K. & E. Dunsterville 104090* (VEN); km 119 south of El Dorado, 1,030 m, *Steyermark et al. 93037* (VEN).

This species shows a close affinity to *I. macarenensis* Cuatrec. of Colombia, but differs in the larger stigma and shorter petioles. Additionally, the leaf apex is shortly and obtusely acute to acuminate rather than narrowly cuspidate, the combined pistillate peduncle and pedicel is longer, and the lateral nerves are not prominently sulcate as in *I. macarenensis*.

Ilex attenuata Steyermark, sp. nov. TYPE: Brazil. Amazonas: Sierra Pirapucú, Comissão de Limites BR-1, 1,250 m, 24 Jan. 1966, *Nilo T. Silva & Umbelino Brazão 60873* (holotype, MO; isotypes, INPA, G, VEN, NY).

Arbor, 12-metralis, foliis oblongo-ellipticis vel late elliptico-lanceolatis apice longiattenuatis obtuse acuminatis, acumine 1–2 cm longo, 3–5 mm lato, basi obtusis vel subacutis 7–13.7 cm longis 2.5–4.7 cm latis, utroque margine remote 7–10-crenulatis glabris subtus punctatis; nervis lateralibus utroque latere 6–7 superne impressis inconspicuis; nervulis tertiariis subtus reticulatis elevatis; petiolis 7–14 mm longis glabris; infructescentiis solitariis axillaribus lateralibusque; pedunculis pedicellisque minute puberulis; bracteis sub pedicellis lanceolatis acuminatis usque 0.5–1 mm longis; florum foemineorum calyce 2–3 mm lato dense puberulo, lobis late rotundatis vel subtruncatis 1.5–2 mm latis dense puberulis ciliatisque tubo longiore; bacca globoso 5–6 × 5–6 mm; pyrenes trigonis 4 mm longis dorsaliter 3–4-costatis.

Tree 12 m tall. Leaves subcoriaceous, oblong-elliptic or broadly elliptic-lanceolate, narrowed to a long-attenuate, obtusely acuminate apex, the acumen 1–2 cm long, 3–5 mm wide, obtuse to subacute at base, 7–13.5 cm long, 2.5–4.7 cm wide, each margin with 7–10 crenulations 3–8 mm distant, glabrous, dark punctate beneath; midnerve sulcate above; lateral nerves 6–7 each side, inconspicuously impressed above, irregularly anastomosing; tertiary venation reticulately elevated below. Petiole 7–14 mm long, glabrous. Infructescence near apex of branchlets, solitary, axillary and terminal. Pistillate flowers either on simple pedicels 6–7 mm long, or, if these in 3s at the end of a peduncle, 3–4 mm long. Peduncle and pedicels minutely puberulous, the puberulence in vertical lines. Bracts subtending pedicels lanceolate, acuminate, 0.5–1 mm long. Pistillate calyx 2–3 mm wide, densely puberulous, the lobes broadly rounded or subtruncate, 1.5–2 mm wide, densely puberulous and ciliate, longer than the tube. Fruit globose, 5–6 × 5–6 mm; pyrenes trigonous, 4 mm long, 3–4-dorsally costate.

In leaf shape this taxon resembles *Ilex symplociformis* Loes. of Brazil, but is distinguished by having a solitary, axillary and lateral pistillate inflorescence, longer peduncles and pedicels, the latter subtended by acuminate bracts, leaf blades with fewer and more distant crenulations, and suborbicular, rounded calyx lobes.

Ilex brevipedicellata Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Dept. Atabapo, Cerro Marahuaca, “Sima Camp,” south-central portion, forested slopes along eastern branch on Caño Negro, 3°43′N, 65°31′W, 1,140 m, 21–22, 24 Feb. 1985, *Julian A. Steyermark & Bruce Holst 130531* (holotype, MO; isotype, VEN). Figure 6D.

Arbor 15-metralis, foliis oblongo-obovatis apice rotundatis saepe emarginatis basi acutis 4–7 cm longis 2.5–3.5 cm latis integerrimis glabris subtus valde negro-punc-

tatis; nervis lateralibus utroque latere 5–6; nervulis tertiariis obsoletis; petiolis 4–8 mm longis glabris; inflorescentiis solitariis axillaribus lateralibusque, pedicellis 1–1.5 mm longis glabris; calyce sub fructu 2.5 mm lato, lobis suborbicularibus 1.5 mm latis minute ciliolatis.

Tree 15 m tall. Leaves firmly membranous or chartaceous, revolute, oblong-obovate, rounded and often emarginate at apex, acute at base, 4–7 cm long, 2.5–3.5 cm wide, entire, glabrous, strongly black punctate beneath; midnerve sulcate above; lateral nerves 5–6 each side, faint beneath; tertiary venation obsolete. Inflorescence solitary, axillary and lateral. Pedicels 1–1.5 mm long, 0.8 mm wide, glabrous. Calyx lobes in fruit suborbicular, rounded, 1.5 mm wide, 0.5 mm long, minutely ciliate; calyx tube puberulent to glabrescent.

This species differs from *Ilex sessilifructa* Edwin of Cerro de la Neblina in the shorter pedicels and more manifest lateral nerves on both leaf surfaces. It differs from *I. culmenicola* Steyermark of Cerro Duida in the very short pedicels and rounded leaf apex and from *I. gleasoniana* Steyermark of Cerro Duida in the larger, nonmucronate leaf apex, shorter pedicels, more abundantly punctate leaves, and the more conspicuous lateral nerves on the lower leaf surface.

Ilex cardonae Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: orillas del Río Castanho, afluente del Padauri que cae del Río Negro y éste último al Amazonas, 100–140 m, 16–24 Feb. 1946, *Felix Cardona 1480* (holotype, VEN).

Arbor, ramulis glabris; foliis oblongo-ellipticis apice acutis basi acutis 11–13 cm longis 3.5–4.5 cm latis obscure repando-crenulatis epunctatis glabris; petiolis 6–8 mm longis glabris; inflorescentia masculina fasciculata axillari lateralique; pedunculis 3–5-floris 3–4 mm longis puberulis; pedicellis 1–2 mm longis puberulis; floribus 4-meris, calycis lobis suborbicularibus rotundatis extus puberulis.

Tree with glabrous stems. Leaves submembranous or chartaceous, oblong-elliptic, acute at apex and base, 11–13 cm long, 3.5–4.5 cm wide, obscurely repand-crenulate, epunctate, glabrous; main lateral nerves 7–8 each

side, ascending at an angle of 45–60°, impressed above, slightly elevated below; upper midrib shallowly sulcate, lower midrib elevated; tertiary venation grossly reticulate below. Petioles 6–8 mm long, glabrous. Inflorescence staminate, fasciculate, axillary and lateral. Peduncles 3–5-flowered, 3–4 mm long, puberulous. Pedicels 1–2 mm long, puberulous. Flowers 4-merous. Calyx lobes suborbicular, rounded, puberulous without.

This species is related to *I. tateana* Steyermark of Cerro Duida and Marahuaca, but differs in the thinner, smaller, epunctate leaf blades, puberulous peduncles, pedicels, and calyx lobes.

Ilex ciliolata Steyermark, sp. nov. TYPE: Venezuela. Bolívar: 0.4 km north of El Pauji on trail to Uaiparú, 4°30'N, 61°35'W, 800–900 m, 4 Nov. 1985, *Ronald Liesner 19479* (holotype, MO; isotype, VEN).

Arbor 5-metralis, ramulis superioribus juvenilibusque minute puberulis; foliis elliptico-ovatis vel oblongo-ovatis apice acutis obtusis vel rotundatis basi acutis vel subacutis 4.5–6.5 cm longis 2–3.3 cm latis integerrimis subtus obscure minuteque pallide punctatis, subtus costa nervis lateralibusque minute puberulis superne costa sulcata et prope margines puberulis, marginibus revolutis ciliolatis aliter glabris; nervis lateralibus utroque latere plerumque 5; petiolis 4–7 mm longis minute puberulis glabrescentibus; inflorescentiis masculinis solitariis axillaribus lateralibus; pedunculo 2.5–3 mm longo; pedicellis 2.5–6 mm longis; pedunculis pedicellisque minute puberulis; calycis lobis suborbicularibus 1 mm latis; fructu globoso 4 × 4 mm.

Tree 5 m tall; young stems and uppermost branches minutely puberulent. Leaves elliptic-ovate to oblong-ovate, acute, obtuse, or rounded at the apex, acute to subacute at base, 4.5–6.5 cm long, 2–3.3 cm wide, entire, obscurely and minutely pale punctate beneath, the lower midrib and lateral nerves minutely puberulent, the midrib above and marginal upper surface puberulent, the margins revolute, minutely ciliate; lateral nerves mainly 5 each side. Staminate inflorescence solitary, axillary and lateral, cymosely flowered with a peduncle 2.5–3 mm long or epunctate, pedicels 2.5–6 mm long; peduncle

and pedicels minutely puberulent. Calyx lobes suborbicular, 0.5 mm long, 1 mm wide, erose-ciliolate; petals 3 mm long, 1 mm wide. Fruit globose, 4 × 4 mm.

This taxon is characterized by the abundance of minute pubescence near the margins of the upper surface of the leaf blades, on the lower midrib and lateral nerves, peduncles, pedicels, as well as the upper portions of the stems. It is related to *Ilex sulcata* Edwin and *I. steyermarkii* Edwin of higher altitudes in Estado Bolívar, which differ in their glabrous vegetative parts. From *Ilex steyermarkii* it differs further in having both axillary and lateral inflorescences. In his description of *I. steyermarkii*, Edwin (1965) mistook small, black hairlike fungal structures occurring upon the leaf margins as true trichomes. Descriptions of such artifacts are frequently encountered in a number of species described in the above mentioned publication.

Ilex davidsei Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Dept. Río Negro, lower part of the Río Baria, 1°27'–1°10'N, 66°32'–66°25'W, inundated forest along river, 80 m, 22–23 July 1984, *Gerrit Davidse 27719* (holotype, MO; isotype, VEN).

Arbor 8-metralis, ramulis juvenilibus minute puberulentibus glabrescentibus; foliis elliptico-oblongis vel anguste ellipticis apice in acumen obtusum 5–12 mm longum 3–5 mm latum productis basi acutis vel subacutis, 4–7.5 cm longis 1.5–3 cm latis, marginibus 2–4 remote crenulatis glabris subtus punctatis; nervis lateralibus utroque latere 5–6; nervulis tertiariis subtus vix manifestis; petiolis 5–8 mm longis glabris; inflorescentiis masculinis solitariis axillaribus racemose denseque ca. 25-floris 1.3–1.7 cm longis 7 mm latis, rhachidi minute puberulenti; floribus 4-meris, pedicellis 0.5–1 mm longis minute puberulentibus; calycis lobis suborbicularibus rotundatis 1 mm latis valde ciliolatis aliter glabris; petalis oblongo-obovatis 1.5 mm longis; inflorescentiis foemineis solitariis axillaribus densifloris racemosis 1.2–1.5 cm longis 0.6–0.7 mm latis; pedicellis 1 mm longis puberulentibus; calycis lobis suborbicularibus rotundatis ciliolatis 1.2 mm latis ciliolatis.

Tree 8 m tall. Young stems minutely puberulent, glabrescent. Leaves elliptic-oblong or narrowly elliptic, the apex prolonged into an obtuse acumen 5–12 mm long, 3–5 mm wide, acute to subacute at base, 4–7.5 cm long, 1.5–3 cm wide, the margins with 2–4

remote crenulations, glabrous, punctate below; lateral nerves 5–6 each side, slightly manifest below; tertiary venation scarcely apparent below, obsolete above. Petioles 5–8 mm long, glabrous. Staminate inflorescences solitary, axillary, racemose, densely ca. 25-flowered, 1.3–1.7 cm long, 7 mm wide, rachis minutely puberulent; flowers 4-merous; pedicels 0.5–1 mm long, minutely puberulent. Calyx tube 1.5 mm wide, glabrous; calyx lobes suborbicular, rounded, 1 mm wide, conspicuously ciliolate, glabrous elsewhere. Petals oblong-obovate, broadly rounded at apex, 1.5 mm long, 1 mm wide, ciliolate on upper margins. Pistillate inflorescence solitary, axillary, elongated, simply racemose, 1.2–1.5 cm long, 0.6–0.7 mm wide; pedicels 1 mm long, puberulent. Rachis puberulent. Calyx 2.5 mm wide, lobes suborbicular, rounded, 1.2 mm wide, ciliolate.

Paratype. VENEZUELA. BOLÍVAR: Río Pacimoni between Caño Arapacua and Caño Boridahari, 110 m, *Maguire & Wurdack 34905* (NY).

This taxon is characterized by the short, densely flowered, racemose, solitary, axillary inflorescence and leaves with a pronounced, elongated, obtuse acumen and remotely few crenate margins. It shows affinities with members of section 3 (*Thyrsiflorae*), section 4 (*Symplociformes*), and section 5 (*Brachythyrseae*) of Loesener (1901). From *Ilex conocarpa* Reissek and *I. symplociformis* Reissek it differs in the more remotely, fewer-crenate leaf margins, smaller leaves with a more pronounced elongated apex, and a shorter, narrower inflorescence. It is distinguished from *I. casiquiarensis* Loes. by the smaller leaves with fewer lateral nerves and by more congested inflorescences with shorter staminate lateral axes and shorter pedicels.

Ilex glabella Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Dept. Río Negro, Cerro de la Neblina, Camp 4, 15 km NNE of Pico Phelps, north branch of river in canyon, 0°51'N, 65°57'W, 780 m, 15–18 Mar. 1984, *Ronald Liesner 16688* (holotype, MO; isotype, VEN).

Arbor, ramulis glabris; foliis oblongo-lanceolatis apice obtuse vel acute subacuminatis basi rotundatis 10–15 cm longis 4.5–6 cm latis integerrimis glabris subtus punctatis; nervis lateralibus principalibus utroque latere 11–13; venulis tertiariis subtus manifeste reticulatis; petiolis 10–11 mm longis glabris; inflorescentiis masculinis subterminalibus vel terminalibus axillaribus fasciculatisque, pedunculis quattuor 5–8 mm longis unusquisque 5-floris umbellatis; pedicellis 3–4.5 mm longis; floribus 4-meris, calyce glabri 2.5 mm lato, lobis suborbiculari-ovatis apice subacutis vel apiculatis 0.8×0.8 mm.

Tree with glabrous branchlets. Leaves subcoriaceous, oblong-lanceolate, obtusely to acutely subacuminate at apex, rounded at base, 10–15 cm long, 4.5–6 cm wide, entire, glabrous, subrevolute; midnerve shallowly sulcate above; principal lateral nerves 11–13 on each side, slightly ascending at 10–20° angle, impressed above, somewhat manifest beneath; tertiary venation manifestly reticulate below. Petiole 10–11 mm long, glabrous. Staminate inflorescence subterminal in the uppermost leaf axils or terminal, axillary, fasciculate with 4 peduncles 5–8 mm long, each bearing 5 umbellately arranged pedicellate flowers; pedicels 3–4.5 mm long, glabrous. Flowers 4-merous; calyx 2.5 mm wide, glabrous; lobes suborbicular-ovate, narrowed to a subacute or apiculate apex, 0.8×0.8 mm, glabrous. Petals ligulate-oblong, rounded at apex, 1.5 mm long, 1 mm wide.

In Loesener's monograph (1901) this species would fall in subsection A, *Punctatae* Loes., section 9 *Micranthae* Loes. of series *Paltoria* (Ruiz & Pavon) Maxim. From *Ilex tarapotina* Loes. of Peru it differs in the glabrous stems and inflorescences, shorter peduncles with longer pedicels, glabrous calyx, and larger leaf blades with rounded bases. *Ilex glabella* differs from *I. andarensis* Loes. of Peru by having glabrous peduncles, pedicels, calyx, and branchlets and by having more numerous, less ascending lateral nerves of the leaf blades.

Ilex gransabanensis Steyermark, sp. nov.

TYPE: Venezuela. Bolívar: road from Ikararú to Santa Elena, 16 km north of Ikararú, 4°20'N, 61°45'W, 750 m, 26 July 1982, Croat 54158-A (holotype, MO; isotype, VEN).

Frutex 1.5-metralis, ramulis glabris; foliis obovato-oblongis vel oblongo-ovatis apice rotundatis obtusis vel subobtusis basi obtusis vel subacutis 5–9.5 cm longis, 3.5–5 cm latis integerrimis glabris subtus punctatis; costa supra subelevata vel subimpressa 1 mm lata; nervis lateralibus supra obsolete vel impressis utroque latere 6–11; petiolis 9–13 mm longis glabris; inflorescentia foeminea axillari lateraliqve solitaria vel fasciculata; pedunculo fructifero 1 mm longo fructifero puberulo, pedicellis sub fructu 2–5 mm longis puberulis; calycis lobis sub fructu suborbicularibus rotundatis 2 mm latis ciliolatis aliter glabris; bacca globoso 6×6 mm; pyrenis trigonis 4 mm longis dorsaliter laevibus.

Shrub 1.5 m tall. Branchlets glabrous. Leaves coriaceous, shining above, obovate-oblong or oblong-ovate, rounded, obtuse or subobtuse at apex, obtuse to subacute at base, 5–9.5 cm long, 3.5–5 cm wide, entire, glabrous, punctate below, slightly recurved on margins; midrib subelevated, subimpressed above, 1 mm wide; lateral nerves obsolete or impressed above, 6–11 each side, forking before reaching margins, not manifestly anastomosing. Petioles 9–13 mm long, glabrous. Pistillate inflorescence axillary and lateral, solitary or fasciculate, fruiting peduncle 1 mm long, puberulent; fruiting pedicels 1–2 on a peduncle, 2–5 mm long, puberulent. Calyx minutely puberulent, the lobes in fruit suborbicular, rounded, 1–1.5 mm long, 2 mm wide, ciliolate. Fruit globose, 6×6 mm. Pyrenes trigonous, 4 mm long, dorsally smooth above, without ridges.

This taxon resembles *Ilex tepuiana* Edwin in leaf shape but differs in the dorsally smooth pyrenes and much longer petioles. From *I. solida* Edwin it is differentiated by the much shorter fruiting pedicels and much longer petioles, while from *I. fanshawei* Edwin it may be distinguished by the dorsally smooth achenes and rounded leaf apex.

Ilex guaiquinimae Steyermark, sp. nov.

TYPE: Venezuela. Bolívar: Cerro Guaiquiníma, southeast-central part of the summit, 5°44'4"N, 63°41'8"W, 730–900 m, 24 May 1978, Julian A. Steyermark, Paul Berry, G. C. K. & E. Dunsterville 117276 (holotype, VEN; isotype, MO).

Arbor, ramulis glabris; foliis late oblongis apice late rotundatis basi acutis vel subacutis 10–16 cm longis 6.5–8 cm latis integerrimis glabris subtus punctatis; costa superne leviter lateque sulcata subtus manifeste elevata; nervis lateralibus utroque latere 6–7 angulo 30–45° ascendentibus 1.5–1.7 cm remotis; petiolis 10–18 mm longis glabris; inflorescentia foeminea solitaria axillari lateraliq. pedunculo sub fructu 3–5 mm longo glabro; pedicellis 3 mm longis glabris; calyce glabro, lobis leviter suborbicularibus rotundatis; bacca globosa 5 mm longa 5.5 mm diam.; pyrenis 5 mm longis dorsaliter late unisulcata.

Tree with glabrous branchlets. Leaves broadly oblong, broadly rounded at apex, acute to subacute at base, 10–16 cm long, 6.5–8 cm wide, entire, glabrous, punctate below; midrib 2 mm wide, shallowly and widely sulcate above, conspicuously elevated below; lateral nerves slender, 6–7 each side, ascending at an angle of 30–45°, 1.5–1.7 cm apart, impressed or slightly elevated above, slightly elevated below, branching before reaching margin; tertiary venation slightly evident above, obscure below. Petioles 10–18 mm long, glabrous. Pistillate inflorescence solitary, axillary, lateral. Fruiting peduncle 3–5 mm long, glabrous; pedicels 3 mm long, glabrous. Calyx glabrous, the lobes shallowly suborbicular, rounded. Fruit globose, 5 mm long, 5.5 mm diam. Pyrenes 5 mm long, 3 mm wide, dorsally broadly 1-sulcate.

Closely related to *Ilex jenmanii* Loes., from which it differs in the fewer lateral nerves more distantly separated (15–17 mm vs. 4–10 mm in *I. jenmanii*), broadly oblong leaves rounded at the apex, punctate lower leaf surface, shallowly and widely sulcate upper midrib, and solitary, axillary, and lateral inflorescence. From *I. marginata* Edwin it is distinguished by the ascending lateral nerves of the leaf blades.

Ilex holstii Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Dept. Atabapo: Cerro Marahuaca, "Sima Camp," south-central portion of forested slopes along east branch of Caño Negro, 3°43'N, 65°31'W, 1,140 m, 21–22, 24 Feb. 1985, *Julian A. Steyermark & Bruce Holst 130481* (holotype, MO; isotype, VEN).

Arbor 4-metralis, ramulis glabris; foliis lanceolatis apice acuminatis basi acutis vel subacutis 5.5–8 cm longis 1.3–2.5 cm latis integerrimis glabris subtus ut videtur epunctatis; nervis lateralibus angulo 5–20°; petiolis 6–10 mm longis glabris; inflorescentia foeminea solitaria axillari lateraliq. pedunculo 2–7 mm longo glabro vel absenti; pedicellis tenuibus solitariis vel duobus 4–7 mm longis 0.3–0.5 mm latis; calyce glabro 2.5 mm lato, lobis vix manifestis truncatis; bacca 4–6 × 4–6 mm; pyrenis 4, trigonis 4 mm longis dorsaliter late 1-sulcatis.

Tree 4 m tall with glabrous branchlets. Leaves subcoriaceous, lanceolate, acuminate at apex, with an attenuate mucro 0.5 mm long, acute or subacute at base, 5.5–8 cm long, 1.3–2.5 cm wide, 2.7–4 times longer than broad, entire, glabrous, the midnerve shallowly sulcate above, slightly elevated below; lateral nerves obsolete above, manifestly impressed below, subhorizontally spreading at an angle of 5–20°, tertiary venation faintly reticulate below. Petioles 6–10 mm long, glabrous. Pistillate inflorescence solitary, axillary, lateral. Fruiting peduncle when present 2–7 mm long, glabrous; fruiting pedicels solitary or 2 together, slender, 4–7 mm long, glabrous. Calyx in fruit glabrous, 2.5 mm diam., the lobes scarcely evident, truncate. Fruit globose, 4–6 × 4–6 mm. Pyrenes 4, trigonous, 4 mm long, 2–2.5 mm wide, broadly unisulcate dorsally.

This species is similar to *Ilex oliveriana* Loes. in unisulcate pyrenes, leaf shape and mucronate apex, and the size of the fruit; but it differs in the longer petioles, more prominently impressed, subhorizontal lateral nerves, and longer mucros of the leaf blades. From *I. macarenensis* it differs principally in the dorsally unisulcate achenes.

Ilex ignicola Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Dept. Río Negro, Cerro Aratitiope, 70 km south-southwest of Ocamo, 2°10'N, 65°34'W, 990–1,100 m, 24–28 Feb. 1984, *Julian A. Steyermark, Paul Berry & Francisco Delascio 130112* (holotype, MO; isotype, VEN).

Arbor 6-metralis, ramulis novellis minute puberulis vel glabris; foliis elliptico-oblongis apice anguste obtusis vel subacutis basi acutis vel subacutis 5.5–8 cm longis 2.5–

3.5(-4) cm latis integerrimis glabris; costa superne subelevata vel leviter sulcata plerumque puberula subtus impressa vel elevata plerumque puberula; nervis lateralibus utroque latere 7-9; petiolis 5-9 mm longis minute puberulis glabrescentibus; inflorescentia foeminea solitaria axillari lateralique, pedicellis 3-4 mm longis minute puberulis; calyce sub fructu puberulo, lobis leviter suborbicularibus rotundatis 1 mm latis puberulis; bacca subobovoidea 7-8 mm longo 5 mm lato; pyrenis quattuor trigonis 4-5 mm longis dorsaliter late 1-sulcatis.

Tree 6 m tall; young stems minutely puberulent, glabrescent. Leaves subcoriaceous, elliptic-oblong, narrowly obtuse or subacute at apex, acute to subacute at base, 5.5-8 cm long, 2.5-3.5(-4) cm wide, entire, glabrous, subrevolute; midnerve subelevated or shallowly sulcate above, puberulous, impressed or elevated below, mainly puberulous; lateral nerves 7-9 each side, inconspicuous, scarcely evident below, impressed above, ascending at a 45° angle; tertiary venation obsolete above, scarcely evident beneath. Petioles 5-9 mm long, minutely puberulous or glabrescent. Pistillate inflorescence solitary, axillary, lateral. Pedicels 3-4 mm long, minutely puberulent. Calyx puberulous in fruit, the lobes shallowly suborbicular, rounded, 1 mm wide, puberulent. Fruit subobovoid, 7-8 mm long, 5 mm broad. Pyrenes 4, trigonous, 4-5 mm long, 2 mm wide, dorsally broadly unisulcate, the sulcation sharply angled.

This species is marked by the usually minutely puberulent upper and lower midnerves, the puberulent pedicels and calyx, and the slightly longer than broad subobovoid fruits with unisulcate pyrenes.

Ilex jauaensis Steyermark, sp. nov. TYPE: Venezuela. Bolívar: Meseta de Jaua, Cerro Jaua, southwest summit, 4°48'50"N, 64°34'10"W, gallery forest along tributary of Río Marajano, 1,750-1,800 m, 22-28 Feb. 1974, *J. A. Steyermark, V. C. Espinoza & C. Brewer-Carías 109294* (holotype, VEN; isotype, MO).

Arbor 4-metralis, ramulis glabris; foliis oblongo-obovatis apice rotundatis retusis basi acutis vel obtusis 4-5.5 cm longis 2-3 cm latis integerrimis glabris subtus punctatis; nervis lateralibus utroque latere 5; venulis tertiariis obsolete; petiolis 5 mm longis glabris; inflorescentia foeminea solitaria axillari lateralique; pedicellis sub fructu 13-14

mm longis glabris; calyce sub fructu glabro, lobis leviter suborbicularibus 2 mm latis; bacca in sicco 7 mm longo, 8 mm diam., in vivo 9 mm longo 10 mm diam.; pyrenis trigonis 4.5-6 mm longis dorsaliter late unisulcatis, cristis marginalibus prominentibus.

Tree 4 m tall with glabrous branchlets. Leaves coriaceous, oblong-obovate, mainly rounded at the retuse apex, acute to obtuse at base, 4-5.5 cm long, 2-3 cm wide, entire, glabrous, punctate below; lateral nerves 5 each side, narrowly sulcate above, slightly manifest and subelevated below; tertiary venation not evident. Petioles 5 mm long, glabrous. Pistillate inflorescence solitary, 1-flowered, axillary, lateral. Fruiting pedicels 13-14 mm long, glabrous. Calyx glabrous in fruit, the lobes shallowly suborbicular, 2 mm wide. Fruit 7 mm long, 8 mm wide (dried state), 9 mm long, 10 mm wide (living state). Pyrenes trigonous, 4.5-6 mm long, 3-4 mm wide, with prominent marginal ridges.

Paratype. VENEZUELA. BOLÍVAR: Cerro Marutani, 1,420 m, *Steyermark et al. 124032* (VEN).

The retuse, mainly rounded leaf apex distinguishes this taxon from *Ilex sulcata* Edwin and *I. tiricae* Edwin; the longer petioles, shorter leaves, and oblong-obovate leaf shape differentiate it from *I. lasseri* Edwin; the longer petioles, shorter pistillate pedicels, and obtuse to acute leaf base distinguish it from *I. solida*; and the longer and less thickened petioles differentiate the new species from *I. tepuiana* Edwin.

Ilex longipilosa Steyermark, sp. nov. TYPE: Venezuela. Bolívar: 3 km south of El Pauji, non-forested south slope and summit of El Abismo, 4°30'N, 61°35'W, 800-1,050 m, 11 Nov. 1985, *Ronald Liesner 19878* (holotype, MO; isotype, VEN). Figure 6A.

Frutex 1.5-metralis, ramulis dense hirtellis pilis usque 0.5 mm longis instructis; foliis cuneiformi-obovatis vel suborbiculari-ovatis apice rotundatis abrupte apiculatis basi cuneatis 4-7 cm longis 2.5-5.5 cm latis plerumque integris vel raro 1-2-denticulatis subtus costa valde pilosa pilis 0.3-0.9 mm munitis; nervis lateralibus subtus pilosulis pilis divaricatis instructis alibi subtus sparse pilosulis vel glabris, subtus minute punctatis; nervis lateralibus utroque latere 6-8 angulo 10-20° divaricatis; venulis

tertiariis subtus grosse reticulatis; petiolis 3–7 mm longis dense hirtellis pilis patentibus; inflorescentia foeminea solitaria axillari lateralique 10–20 mm longo ramosa 5–6 axibus 4–10 mm longis praedita; pedunculo 4–9 mm longo puberulo; pedicellis 1.5–2 mm longis puberulis; bracteis deltoideo-lanceolatis acutis vel acuminatis 1.2 mm longis 0.5 mm latis glabris vel extus basi paucipilosis; floribus 4-meris, calycis lobis suborbicularibus rotundatis vel paullo subacutis 1.3 mm latis leviter irregulariterque erosis; petalis obovato-oblongis rotundatis 3 mm longis 2 mm latis.

Shrub 1.5 m tall, the branchlets densely hirtellous with spreading hairs up to 0.5 mm long. Leaves cuneiform-obovate or suborbicular-ovate, abruptly apiculate at the rounded apex, cuneate at base, 4–7 cm long, 2.5–5.5 cm wide, mainly entire or rarely with 1–2 minute toothlike projections, subrevolute, the lower midrib strongly pilose with spreading hairs 0.3–0.9 mm long, the lateral nerves beneath with spreading hairs, the lower surface pilosulous to glabrate, the upper surface glabrous except for the minutely puberulent sulcate midrib, minutely punctate on lower surface; midnerve sulcate above, elevated below; lateral nerves 6–8 each side, divaricately spreading at a 10–20° angle, slightly manifest below, inconspicuous and faintly sulcate above. Petioles 3–7 mm long, densely hirtellous with spreading hairs. Pistillate inflorescence solitary, axillary, lateral, 10–20 mm long, cymosely or paniculately branched with 5–6 lateral axes 4–10 mm long; peduncle 4–9 mm long, shortly puberulous; pedicels 1.5–2 mm long, shortly puberulous. Bracts deltoid-lanceolate, acute to acuminate, 1.2 mm long, 0.5 mm wide, mainly glabrous or with a few hairs at the outer base. Flowers 4-merous; calyx lobes suborbicular, rounded or slightly subacute, 1.3 mm wide, the margins slightly irregularly erose. Petals obovate-oblong, rounded, 3 mm long, 2 mm wide.

From the taxa placed by Loesener (1901) in his section 7 *Megalae*, subsection *Pedicellata* Loes., especially *Ilex villosula* Martius, *I. velutina* C. Martius, *I. brasiliensis* (Sprengel) Loes., and *I. theezans* var. *riedelii* Loes., the new species differs in its solitary, axillary, and lateral (vs. fasciculate) inflorescences, punctate lower leaf surface, and dif-

ferently shaped leaves. The longer pubescence of the new species is somewhat reminiscent of *I. maguirei* Wurdack of Cerro de la Neblina, which differs in its rounded leaf bases, differently shaped leaves, shorter petioles, pubescent, elongated fruit, and only 1–3-flowered inflorescences.

Ilex magnifructa Edwin, var. **minor** Steyermark, var. nov. TYPE: Venezuela. Territorio Federal Amazonas: Cerro Ualipano, orillas del Río Parucito, 6°N, 65°43'W, 1,760 m, Feb. 1962, *Felix Cardona 2943* (holotype, US; isotype, MO).

A var. *magnifructa* pedicellis fructiferis 5–10 mm longis recedit.

Leaf blades broadly oblong-obovate, rounded at apex, broadly rounded or obtuse at base, 7.5–10.5 cm long, 4–8 cm wide. Petioles 2–3 mm long. Calyx lobes 4, deltoid, acute. Fruiting pedicels 5–10 mm long.

This variety differs from var. *magnifructa* in the shorter fruiting pedicels.

Ilex marahuacae Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Cerro Marahuaca, “Sima Camp,” south-central portion, forested slopes along E branch of Caño Negro, 3°43'N, 65°31'W, 1,140 m, 21–22, 24 Feb. 1985, *J. A. Steyermark & B. K. Holst 130425* (holotype, MO; isotype, VEN).

Arbor 4-metralis, ramulis glabris; foliorum laminis ovatis vel oblongo-ovatis apice obtuse vel argute acuminatis, acumine 8–10 mm longo, basi rotundatis vel subobtusis 6.5–11 cm longis 2.5–4.5 cm latis punctatis glabris, marginibus remote obscureque crenulato-serrulatis; venulis terciariis supra reticulatis aliquantum impressis; petiolis 6–8 mm longis; infructescentia solitari axillari; floribus 4-meris; pedunculo 5–6 mm longo glabro 2–3-flora; calycis lobis suborbicularibus rotundatis minute erosis sparsim ciliatis; pyrenis 4 trigonis dorsaliter laevibus vel sublaevibus.

Tree 4 m tall, the stems glabrous. Leaf blades subcoriaceous, ovate or oblong-ovate, obtusely to acutely acuminate at apex, the acumen 8–10 mm long, rounded to subobtusely

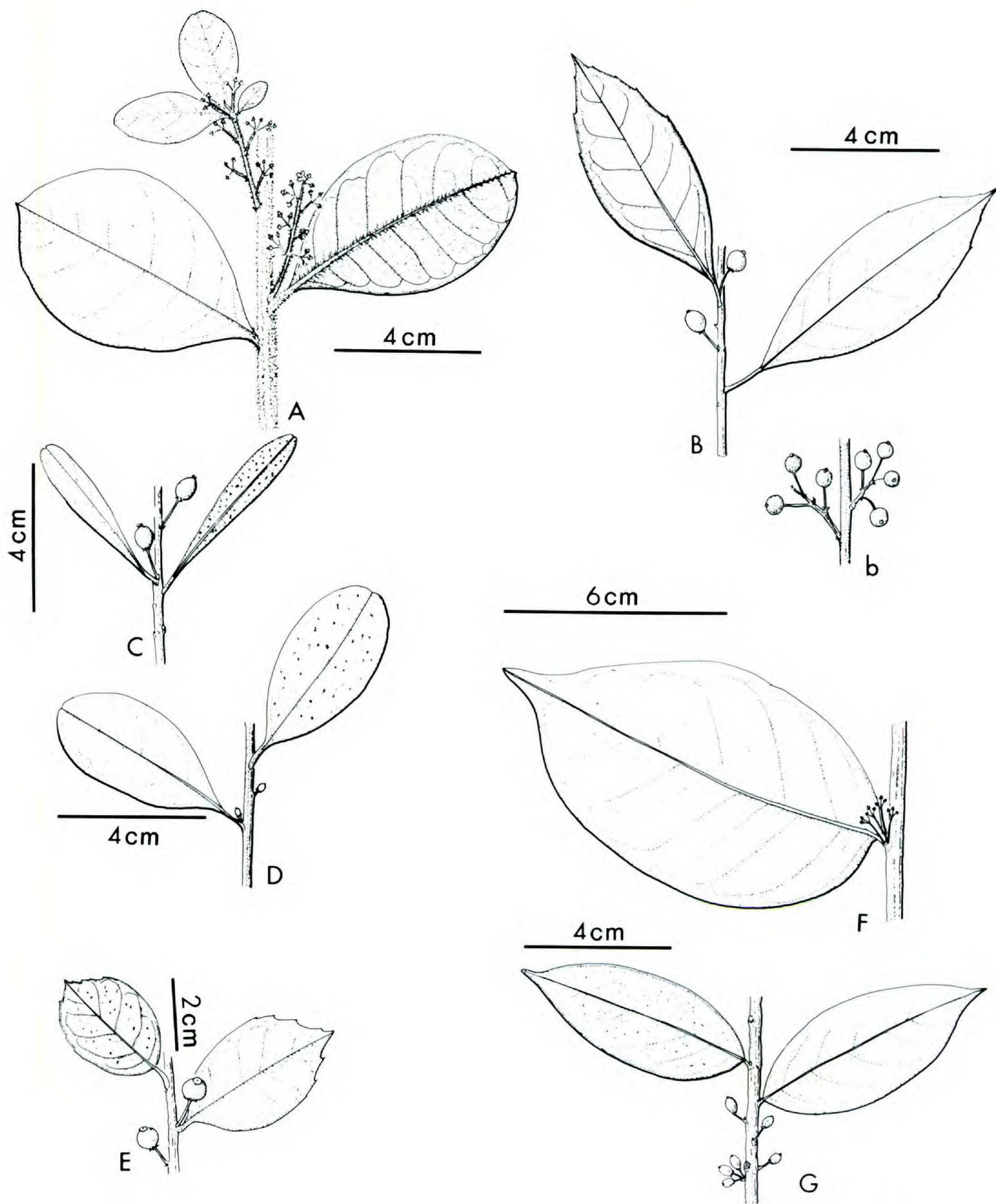


FIGURE 6.—A. *Ilex longipilosa*, portion of flowering branch, staminate.—B. *Ilex acutidenticulata*.—b. Branched fruiting peduncles.—C. *Ilex spathulata*.—D. *Ilex brevipedicellata*.—E. *Ilex summa*.—F. *Ilex wurdackiana*, staminate branch.—G. *Ilex wurdackiana*, portion of fruiting branch.

at base, 6.5–11 cm long, 2.5–4.5 cm wide, punctate, glabrous; lateral nerves 4–5 each side with less conspicuous intermediate nerves, subhorizontally spreading at 10–20°, im-

pressed above, slightly elevated below; tertiary venation reticulate and rather conspicuously impressed above, subobsolete below. Petioles 6–8 mm long, glabrous. Infructes-

cence solitary, axillary. Peduncle 5–6 mm long, 2–3-flowered, glabrous. Pedicels 3 mm long, glabrous. Flowers 4-merous. Calyx lobes shallowly suborbicular, rounded, 0.3 mm long, 1 mm wide, minutely erose, sparsely ciliolate. Calyx tube glabrous. Fruit globose, 5 mm diam. Pyrenes 4, trigonous, 5 mm long, 3 mm wide, dorsally smooth or essentially so.

This taxon is characterized by the elongated acumen of the obscurely crenulate-serulate leaves, the solitary axillary inflorescence, the dorsally smooth pyrenes, and the epunctate leaves.

Ilex paruensis Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Dept. Atabapo, Serranía del Parú (Aroko), sector centro-sur, sabanas herbáceas en el borde sur de la tercera meseta central, 4°27'N, 65°32'W, 1,100 m, 7 Oct. 1979, *O. Huber 4437* (holotype, VEN).

Frutex 2-metralis, ramulis pubescentibus pilis arcte verticaliterque seriatis dispositis; foliorum laminis late obovatis apice rotundatis minute mucronulatis basi acutis 2.5–3.5 cm longis 1.5–2.3 cm latis subtus epunctatis supra arcte negro-punctatis scrobiculatisque, subtus costa media pubescenti pilis brevibus patentibus munita supra sulcata minute puberulenti; petiolis 2 mm longis crebiter minuteque puberulis; infructescentia foeminea solitaria fasciculata axillari lateralique; pedunculis 1–3-floris usque 3 mm longis dense puberulis, pedicellis 1–3 mm longis dense puberulis; calycis lobis fere obsolete repando-rotundatis apice paullo apiculatis; stigmatate depresso latiori quam longiori; fructu subgloboso 3 mm diam. (immaturus).

Shrub 2 m tall; stems minutely pubescent in vertical lines. Leaf blades coriaceous, broadly obovate, rounded at the minutely mucronulate apex, acute at the base, 2.5–3.5 cm long, 1.5–2.3 cm wide, epunctate below, scrobiculate and densely black-punctulate above, the midrib puberulent below with spreading hairs, minutely puberulent in the sulcation above, elsewhere glabrous on both surfaces or sparsely puberulent near base of upper surface, revolute; lateral nerves 4–5 each side, inconspicuous both sides, faintly impressed below. Petioles 2 mm long, densely and minutely puberulent. Infructescence solitary or fasciculate, axillary and lateral. Pe-

duncles 1–3-flowered, up to 3 mm long, densely puberulent. Pedicels 1–3 mm long, densely puberulent. Calyx lobes scarcely developed, broadly shallowly repand-rounded, slightly apiculate at the apex, glabrous. Stigma broadly flattened and depressed at the slightly umbonate summit. Immature fruit subglobose, 3 mm diam.

This species is related to *I. vacciniifolia* Klotzsch, from which it differs in the epunctate lower leaf surface, strongly black punctulate upper surface, shorter fruiting peduncles and pedicels, mucronulate leaf apex, and glabrous, subobsolete calyx lobes.

Ilex paujiensis Steyermark, sp. nov. TYPE: Venezuela. Estado Bolívar: 3 km south of El Pauji, 4°30'N, 61°35'W, 900 m, 19 Oct. 1985, *Ronald Liesner & Bruce Holst 18796* (holotype, MO; isotype, VEN).

Arbor 4-metralis, ramulis glabris; foliis obovatis apice rotundatis interdum retusis basi cuneatis 6.5–11 cm longis 2.5–4.5 cm latis integerrimis glabris subtus valde negro punctatis; costa superne anguste sulcata; nervis lateralibus utroque latere 7–9; venulis tertiariis subtus tenuibus; petiolis 5–10 mm longis 1.5–2 mm diam. glabris; inflorescentia foeminea solitaria axillari lateralique; pedicellis fructiferis 2–3 mm longis minute puberulentibus; calyce minute puberulenti, lobis suborbicularibus rotundatis ciliolatis vel obsolete erosis 1 mm latis; petalis 3–3.5 mm longis 1.5 mm latis minute papillatis marginibus papillato-ciliolatis; bacca globoso 6 × 6 mm.

Tree 4 m tall with glabrous branchlets. Leaves coriaceous, obovate, rounded and sometimes retuse at apex, cuneately narrowed at base, mainly 6.5–11 cm long, 2.5–4.5 cm wide, 2–2½ times longer than broad, entire, glabrous, strongly black-punctate beneath, the upper midnerve narrowly sulcate; lateral nerves 7–9 each side, slightly elevated or impressed above, finely impressed below; tertiary venation faintly manifest beneath. Petioles 5–10 mm long, 1.5–2 mm wide, glabrous. Pistillate inflorescence solitary, axillary, lateral. Fruiting pedicels 2–3 mm long, minutely puberulent. Calyx tube minutely puberulent; calyx lobes suborbicular, rounded, some of them minutely ciliolate, others obsoletely erose, 1 mm wide. Petals 3–3.5 mm

long, 1.5 mm wide, minutely papillate on the lower half of the upper surface, the margins papillate-ciliolate. Fruit globose, 6 × 6 mm.

Paratype. VENEZUELA. BOLÍVAR: region of ríos Ica-barú and Hacha, 450–850 m, *Bernardi 2622* (VEN).

The elongate petioles and short fruiting pedicels ally this taxon to *Ilex gransabanensis* Steyermark, but *I. paujiensis* differs in having the punctations on the lower leaf surface larger and more conspicuous, less conspicuous lateral nerves, more cuneately acute leaf bases, and narrowly sulcate upper midnerves.

The collection of *Bernardi 2622* at VEN, presently treated as a paratype of *Ilex paujiensis*, was identified by Edwin as *I. andarenensis* Loes. and forms the basis for his inclusion of that species in his treatment for the Venezuelan Guayana (1965). *Ilex andarenensis*, originally described from Andara Mountain, Peru, was based on a *Spruce s.n.* collection and is completely different from the *Bernardi 2622* specimen, having, among other differences, ovate, oval-oblong, or elliptic leaf blades which are obtuse, rounded, or cuneately obtuse at the base and acute or obtusely acuminate at the apex with an acumen 7–12 mm long.

Ilex polita Steyermark, sp. nov. TYPE: Venezuela. Bolívar: Guayaraca, southern base, Auyán-tepui, between escarpment and Río Guayaraca, 5°44'N, 62°32'W, 950 m, 25–27 Nov. 1982, *G. Davidse & O. Huber 22679* (holotype, MO; isotype, VEN).

Frutex 2-metralis, ramulis glabris; foliis superne nitidis ovatis ovalibus oblongis vel elliptico-oblongis apice obtuse vel rotundatis basi obtusis vel rotundatis 4–7.5 cm longis 1.8–4.5 cm latis integerrimis glabris subtus epunctatis; costa supra anguste paullo sulcata; nervis lateralibus utroque latere 5–9; petiolis 4–10 mm longis glabris; inflorescentia foeminea solitaria axillari lateralique; pedunculo sub fructu 7–10 mm longo; pedicellis sub fructu 3–5 mm longis ubi solitariis 1–2 mm longis ubi inflorescentiis ramosis; floribus 4-meris; calycis tubo minute puberulo, lobis suborbicularibus apice rotundatis vel subacutis 1.2–1.5 mm latis marginibus ciliolatis.

Shrub 2 m tall with glabrous branchlets. Leaves coriaceous, shining and mainly enervate above, ovate, oval, oblong, or elliptic-

oblong, obtuse or rounded at apex, obtuse or rounded at base, 4–7.5 cm long, 1.8–4.5 cm wide, entire, glabrous, epunctate below, 1.3–2.6 times longer than broad, revolute; midnerve narrowly and shallowly sulcate above, somewhat elevated below; lateral nerves 5–9 each side, ascending at an angle of 15–20°, obsolete above, faintly impressed or slightly elevated below; tertiary venation slightly manifest below. Petioles 4–10 mm long, glabrous. Pistillate inflorescence solitary, axillary, lateral. Peduncle 7–10 mm long in fruit. Pedicels, when solitary, 3–5 mm long in fruit, 1–2 mm long in fruit in cymose inflorescences, sparsely puberulent. Flowers 4-merous. Calyx tube sparsely and minutely puberulent, the lobes suborbicular, rounded or slightly subacute at apex, 0.5 mm long, 1.2–1.5 mm wide, ± densely ciliolate.

Paratypes. VENEZUELA. BOLÍVAR: Auyán-tepui, Guayaraca, 950 m, *Davidse & Huber 22733* (MO, VEN); Río Aparamán, affluent of Río Acanán near Yuray-merú rapids, 1.5 km S of SW corner of Amaruay-tepui, 5°54'N, 62°15'W, 500 m, *Liesner & Holst 20114* (MO, VEN).

This species is characterized by the combination of its densely ciliolate calyx lobes, shallowly sulcate upper midnerve, and oblong, elliptic-oblong, ovate, or oval leaf blades lustrous on the upper surface and obtuse or rounded at the apex.

Ilex spathulata Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Dept. Atabapo, Cerro Marahuaca, slopes upstream from Río Yameduaka, 3°38'N, 65°28'W, 1,225 m, 17–18 Feb. 1985, *Ronald Liesner 17599* (holotype, MO; isotype, VEN). Figure 6C.

Frutex 2-metralis; ramulis glabris; foliis anguste spathulatis apice rotundatis emarginatis basi conspicue angustatis 2.5–4.5 cm longis 0.5–1.2 cm latis integerrimis glabris subtus punctatis; costa superne sulcata; nervis lateralibus principalibus 5–6; venulis tertiariis obsoletis vel fere; petiolis 5–8 mm longis glabris; inflorescentia foeminea solitaria axillari, 1–2-flora; pedicellis sub anthesi 4–4.5 mm longis sub fructu 10–12 mm longis minute puberulentibus; calyce sub anthesi 0.7–1 mm longo 1.5 mm lato glabro, lobis suborbicularibus rotundatis; inflorescentia masculina fasciculata vel solitaria axillari lateralique cymosa 2–5-flora, pedunculo 1.5 mm longo puberulenti, pedicellis 2 mm longis; bacca (immatura) globosa 6 × 5.5 mm.

Shrub 2 m tall, the branchlets glabrous. Leaves subcoriaceous, narrowly spathulate, rounded and emarginate at apex with a thickened blunt tip in the sinus, conspicuously narrowed at the base and decurrent, 2.5–4.5 cm long, 0.5–1.2 cm wide, (2½–)4½–5 times longer than broad, entire, glabrous, punctate beneath, revolute; midnerve sulcate above; principal lateral nerves 5–6 each side, impressed above, slightly elevated below; tertiary venation obsolete or inconspicuous above, slightly more conspicuous below. Petioles 5–8 mm long, glabrous. Pistillate inflorescence solitary, axillary, lateral, 1–2-flowered. Pedicels in flower 4–4.5 mm long, in fruiting specimens 10–12 mm long, minutely puberulent. Calyx 0.7–1 mm long, 1.5 mm wide in anthesis, glabrous; lobes suborbicular, rounded, 0.5 mm long, 0.8 mm wide. Petals 2–2.5 mm long, 1 mm wide. Staminate inflorescence fasciculate or solitary, axillary and lateral, cymosely 2–5-flowered, pedunculate; peduncle 1.5 mm long, puberulent; pedicels 2 mm long. Immature fruit globose, 6 mm × 5.5 mm.

Paratype. VENEZUELA. TERRITORIO FEDERAL AMAZONAS: Cerro Marahuaca, same locality as type, 19 Feb. 1985, *Liesner 17688* (MO, VEN).

This taxon is characterized by the narrowly spathulate leaves, mainly 4½–5 times longer than broad and the completely glabrous calyx. From *Ilex huachamacariana* Edwin it may be distinguished by having shorter fruiting pedicels, more conspicuous lateral nerves, and more conspicuous tertiary venation on the lower leaf surface. From *I. gleasoniana* Steyererm. it differs in the much narrower and thinner leaf blades and in the glabrous calyx.

Ilex summa Steyermark, sp. nov. TYPE: Venezuela. Bolívar: Dist. Piar, Camarcaibarai-tepui, summit, 5°53'N, 61°59'W, 2,400 m, 26 Mar. 1987, *Bruce K. Holst 3617* (holotype, MO; isotype, VEN). Figure 6E.

Frutex 2-metralis, ramulis glabris; foliis ovatis apice apiculatis vel subacutis basi rotundatis vel late obtusis 2.5–4.3 cm longis 1.5–3 cm latis, marginibus superioribus

tertiis dentibus 3–5 acutis vel setulosis praeditis glabris ubique punctatis valde revolutis; costa superne sulcata; nervis lateralibus utroque latere 4–5 supra manifeste sulcatis subtus elevatis divaricatis; venulis tertiariis supra obsolete subtus grosse reticulatis; petiolis 3–6 mm longis glabris; inflorescentia foeminea solitaria axillari laterali; pedunculis sub fructu 4–6 mm longis; pedicellis sub fructu 4–9 mm longis glabris; bacca globoso 6–7 mm diam.; pyrenis 4 trigonis 4–4.5 mm longis dorsaliter unisulcatis.

Shrub 2 m tall with glabrous branchlets. Leaves coriaceous, ovate, apiculate or subacute at apex, rounded or broadly obtuse at base, 2.5–4.3 cm long, 1.5–3 cm wide, 1.4–1.6 times longer than broad, the upper ⅓ of the margins with 3–5 acute to setulose teeth, glabrous, black-punctate on upper and lower surfaces, the margins strongly revolute; midnerve sulcate above with minute puberulence in sulcation, elevated below; lateral nerves 4–5 each side, prominently sulcate above, elevated below, spreading divaricately, dichotomously branched 2–4 mm from the margins; tertiary venation obsolete above, grossly reticulate below. Petioles 3–6 mm long, glabrous. Pistillate inflorescence solitary, axillary, lateral. Peduncles in fruit 4–6 mm long, glabrous. Pedicels in fruit 4–9 mm long, glabrous. Stigma depressed in fruit. Fruit globose, 6–7 mm diam. Pyrenes 4, trigonous, 4–4.5 mm long, dorsally unisulcate.

This species differs from *Ilex acutidenticulata* Steyererm. in having smaller, broadly ovate leaves rounded or broadly obtuse at base and shortly apiculate at the apex; more numerous marginal teeth; shorter, glabrous petioles; and more divaricately spreading lateral nerves prominently sulcate above and elevated below.

Ilex wurdackiana Steyermark, sp. nov. TYPE: Venezuela. Bolívar: Cerro Venamo, northwest slopes, SE of road camp km 125, to line of NE-facing, sandstone bluffs, 1,100–1,140 m, 21 Apr. 1960, *J. A. Steyermark & S. Nilsson 449* (holotype, VEN). Figure 6F, G.

Frutex epiphytica, ramulis superioribus puberulentibus; foliis rigidi-coriaceis subsessilibus late ovatis vel oblongo-lanceolatis apice acutis vel acuminatis basi late rotundatis

vel subcordatis 4–10.5 cm longis 2–6 cm latis integerrimis glabris subtus valde punctatis; costa superne elevata nervis lateralibus utroque latere 4–6 supra subsulcatis vel valde sulcatis subtus elevatis; venulis tertiariis supra obsolete subtus grosse reticulatis paullo elevatis; petiolis 1–3 mm longis glabris; inflorescentia masculina fasciculata axillari lateralique, pedunculis 7–8 filiformibus cymosis 4–6 mm longis glabris; pedicellis filiformibus 1–2 mm longis glabris; floribus 4-meris; calycis lobis suborbicularibus rotundatis 0.3–0.5 mm longis 0.7 mm latis glabris; inflorescentia foeminea solitaria axillari lateralique; pedicellis sub fructu 2.5–4 mm longis; bacca immatura ovoideo-subglobose 2.5–3.5 mm longo 3 mm lato.

Woody epiphyte; upper portions of stems puberulent. Leaves stiff-coriaceous, subsessile, broadly ovate or oblong-lanceolate, acute to acuminate at apex, broadly rounded to subcordate at base, 4–10.5 cm long, 2–6 cm wide, entire, glabrous, strongly punctate beneath; upper midrib prominently elevated; lateral nerves 4–6 each side, subsulcate to prominently sulcate above, elevated below; tertiary venation obsolete above, grossly reticulate below. Petioles 1–3 mm long, glabrous. Staminate inflorescence fasciculate with 7–8 filiform, cymosely branched, glabrous peduncles 4–6 mm long; pedicels filiform, 1–2 mm long, glabrous. Flower 4-merous; calyx lobes suborbicular, rounded, 0.3–0.5 mm long, 0.7 mm wide, glabrous. Petals broadly oblong, rounded at apex, 0.7–1 mm long, 0.8 mm wide. Anthers suborbicular-oblong. Pistillate inflorescence solitary, axillary, lateral. Fruiting pedicels 2.5–4 mm long, glabrous. Stigma depressed-flattened. Immature fruit ovoid-subglobose, 2.5–3.5 mm long, 3 mm wide.

Paratype. VENEZUELA. BOLÍVAR: laderas del Cerro Uei, entre los brazos del Río Uei (afluente del Río Venamo y Cuyuni), selva nublada, 865–1,050 m, 27–28 Dec. 1970, *J. A. Steyermark, G. C. K. & E. Dunsterville 104565* (VEN).

This species is noteworthy in its epiphytic shrubby habit. Other distinguishing characters are the conspicuously elevated upper midrib, subsessile leaves, these entire or with a few minute excrescences, broadly rounded to subcordate at base, and the fasciculate staminate inflorescence with filiform peduncles and pedicels. The species is endemic to the region of the Cerro Venamo and tributaries of the Río Venamo and Río Cuyuni.

It is a great pleasure to dedicate this distinct species to Dr. John J. Wurdack, who has identified much material belonging to the genus *Ilex* and who has rendered invaluable help to the author on many occasions.

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SAPINDACEAE

ALLOPHYLUS

Allophylus parimensis Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Sierra Parima, vecindades Simarawochi, Río Matacuni, 3°49'N, 64°36'W, 6–7 km west of the Brazil-Venezuela frontier, 795–830 m, 18 Apr.–23 May 1973, *Julian A. Steyermark 107033* (holotype, MO; isotype, VEN). Figure 7.

Arbor 10-metralis, ramulis novellis modice pubescentibus pilis subadpressis praeditis; foliis trifoliolatis petiolatis, laminis lanceolato-ellipticis apice acuminatis basi acutis, foliolis lateralibus sessilibus 4–5 cm longis 1–1.3 cm latis (immaturis), terminali (intermedia) 5.5–6 cm longis 1.5–1.8 cm latis subintegris vel marginibus superioribus denticulatis 1–5 dentibus tenuibus adpressis setulosis instructis, supra glabris subtus praesertim costa sparsim adpresso-pubescentibus; nervis lateralibus utroque latere tenuibus 8–9; petiolis (novellis) 1.5–2.5 cm longis dense adpresso-pubescentibus; thyrsis anguste racemiformibus 3.5–5 cm longis 6–8 mm latis densifloris multifloris; floribus solitariis vel plerumque in cincinnis 2–3-floris dispositis vel interdum axibus infimis elongatis racemiformibus 5–6-floris; pedunculo pedicellis atque rhachidi adpresso-pubescentibus; sepalis valde ciliatis exterioribus ubique glabris interioribus extus minute pulverulentibus intus glabris; petalis intus dense villosulis; filamentis glabris; disco modice hispidulo.

Tree 10 m tall; young branchlets moderately subappressed pubescent. Leaves 3-foliolate; leaflets lance-elliptic (immature) acuminate at apex, acute at base, the lateral sessile 4–5 cm long, 1–1.3 cm wide; terminal (intermediate) leaf subsessile, 5.5–6 cm long 1.5–1.8 cm wide, entire or the upper margins with 1–5 appressed, slender, setulose teeth,

glabrous above, sparsely appressed-pubescent below on surface, midnerve, and lateral nerves; lateral nerves slender, 8–9 on both sides. Young petioles 1.5–2.5 cm long, densely appressed-pubescent. Inflorescence a narrow racemiform thyrses, axillary in the upper leaf axils, with 20–30 short, lateral, sessile or pedunculate cincinni, the upper axes mainly 1-flowered, the others usually 2–3-flowered, sometimes the lowest racemiform, elongated, 5–6-flowered and up to 12 mm long; rachis of inflorescence densely subappressed-pubescent, the hairs antrorsely suberect-ascending; pedicels 1–2 mm long, sparsely puberulous; peduncle 1–2 cm long, densely appressed-pubescent. Outer sepals ovate-oblong, rounded, cucullate, 1.5 mm long, 1 mm wide, strongly ciliate, elsewhere glabrous both sides; inner sepals with incurved margins, suborbicular from a short claw, broader than long, 1.3 mm long, 1.6 mm wide, strongly ciliate, glabrous within, minutely puberulent without. Petals broadly obovate or suborbicular, obovate, rounded at summit, narrowed to the base, 1.1 mm long, 0.7 mm wide above the middle, glabrous without, densely ciliate, within densely barbulate-villosulous on the 2-lobed scale and lamina. Disk fleshy, shallowly lobed, moderately hispidulous. Filaments glabrous, 0.8 mm long. Ovary bilobed, suborbicular, densely hispidulous.

This species is allied to *Allophylus strictus* Radlk. and *A. laevigatus* (Turcz.) Radlk., from both of which it differs in the hispidulous disk, glabrous filaments, and sparsely pubescent style. It further differs in the sparingly 1–5-denticulate upper leaf margins with slender appressed teeth, the sparsely puberulous pedicels, more densely pubescent interior of the petals, more densely and closely flowered inflorescence with a densely pubescent rachis, and the sometimes racemosely elongated lowest axes bearing up to 6 flowers.

RUBIACEAE

COUSSAREA

Coussarea evoluta Steyermark, sp. nov.
TYPE: Venezuela. Territorio Federal

Amazonas: Cerro de la Neblina, on hills 1.5 km south of Base Camp on Río Mawarinuma, 0°50'N, 66°10'W, 140–340 m, 4 Dec. 1984, R. Liesner & D. Bell 17493 (holotype, MO; isotype, VEN). Figure 8.

Stipulae suborbiculares late rotundatae 2–5 mm longae; inflorescentia magna longipedunculata 15–17 cm longa 7–10 cm lata pedunculo incluso, axibus lateralibus elongatis infimis 2–3.5 cm longis; corollae lobis ad dimidium vel magis longitudinem tubi corollae attingentibus recurvatis 7–10 mm longis; floribus sessilibus dense fasciculatis.

Tree, 8 m tall, the stem glabrous; stipule suborbicular, shallow, broadly rounded, 2–5 mm long, 5–8 mm broad, glabrous. Petiole 1.5–2.3 cm long, 3 mm thick, glabrous. Leaf blades large, subcoriaceous, oblong-elliptic, abruptly obtusely acuminate at apex, acumen 1–2 cm long, acute at base, 18–29 cm long, 5.5–13 cm wide, glabrous both sides, domatia absent; midrib prominent and elevated below, impressed above; lateral nerves 10–12 each side of the midrib, ascending from a 25–35° angle; tertiary venation grossly reticulate beneath with large areoles, subelevated on lower surface. Inflorescence pedunculate, 15–17 cm long including the peduncle, 7–10 cm wide at the base, cymose-paniculate, the lateral axes subverticillate; peduncle 6–7.5 cm long, microscopically sparsely puberulent; lowest axes verticillate or subverticillate, usually 3–4, widely spreading, 2–3.5 cm long, the other axes shorter, the lowest tier separated by 4–5 cm from the middle tier, the middle tier separated by 2–3.5 cm from the upper tier; lateral axes usually branched at the apex into 2–3 short, mostly unequal axes 7–15 mm long or unbranched, or with short axes 1–2 mm long, each ending in sessile groups of 2–7 flowers. Flowers sessile; calyx and hypanthium 2.5–3.5 mm long, microscopically sparsely puberulent; hypanthium obconic-urceolate or oblong-obconic, 1.2 mm long, 1 mm wide, obtusely ribbed, minutely puberulent; calyx tube deeply campanulate-urceolate, 2 mm long, 1.5 mm wide, minutely sparsely puberulent; calyx teeth 5, linear or subsubulate, recurved, 0.5 mm long, minute-

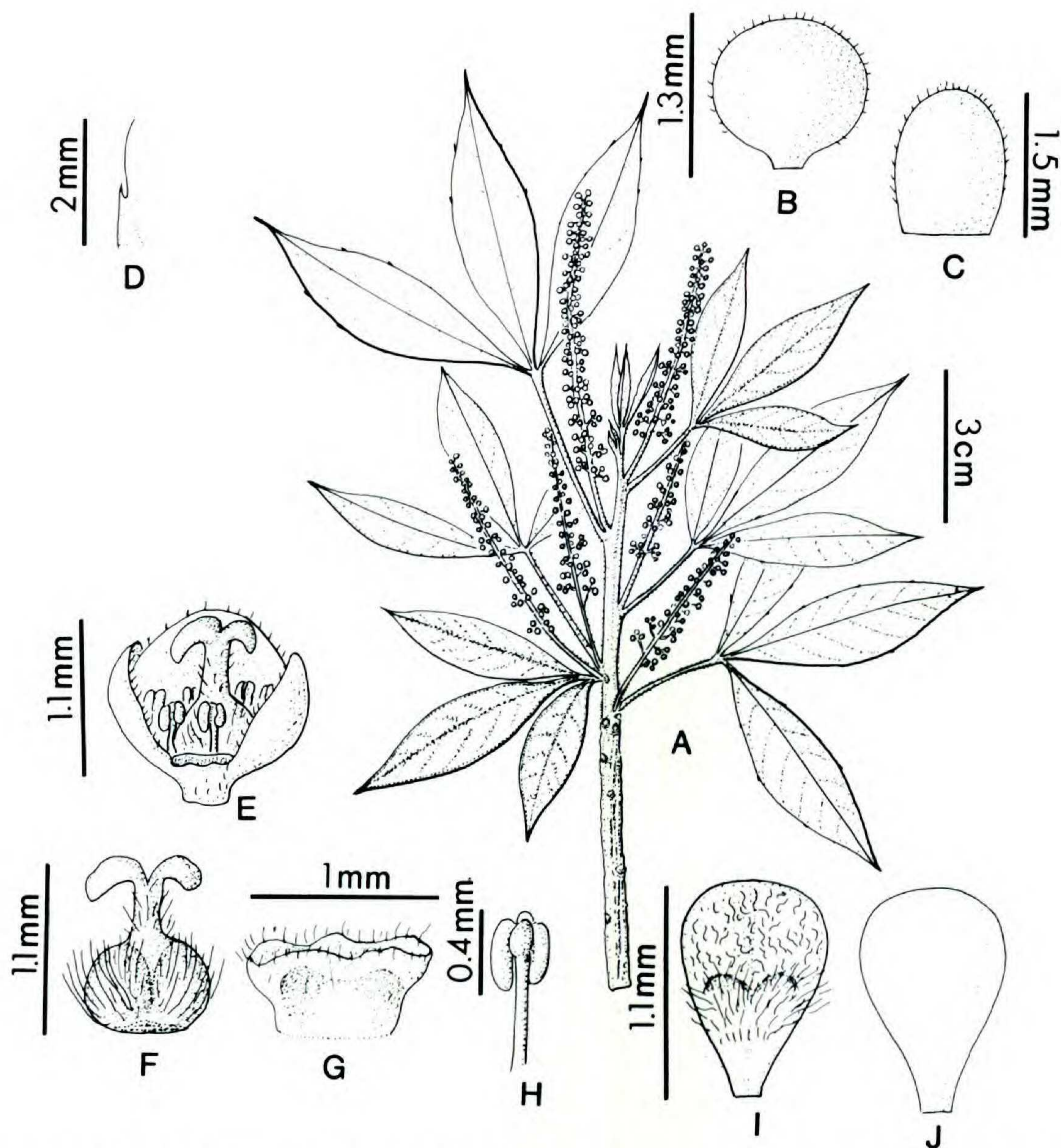


FIGURE 7. *Allophylus parimensis*.—A. Habit of flowering branch.—B. Convex dorsal side, inner sepal.—C. Convex dorsal side, outer sepal.—D. Portion of upper margin of leaflet.—E. Flower with one of inner sepals removed.—F. Pistil.—G. Disk.—H. Stamen.—I. Petal, abaxial view.—J. Petal, adaxial view.

ly hirtellous. Corolla salverform, tube 12.5–13 mm long, 1 mm wide; 4 corolla lobes linear, recurved, 7–10 mm long, 1 mm wide, glabrous within, microscopically puberulent without and at apex, the tube densely papillate-puberulent without. Stamens 4 in the upper 5 mm of corolla tube, included; anthers linear, 4.5 mm long, obtuse at apex with rounded connective, rounded at base. Disk short-columnar, truncate, 0.8 mm long.

This species is characterized by the large inflorescences with elongate lateral axes, compact clusters of sessile flowers, elongated peduncles, corolla lobes at least half the length of the corolla tube, and shallow, rounded stipules.

FARAMEA

Faramea boomii Steyermark, sp. nov.
TYPE: Venezuela. Territorio Federal Amazonas: Cerro de la Neblina, Base Camp, Río Mawarinuma, terra firma forest, 0°50'N, 66°10'W, 4 Dec. 1984, 140 m, *B. Boom & A. Weitzman 5278* (holotype, MO; isotypes, NY, VEN, GH, PORT, K, BR, COL, U, INPA, P, MG, B, AAU, US).

Stipulae aristatae, aristis 2–3 mm longis; foliorum laminae elliptico-oblongis apice abrupte obtuseque caudatis 10–15.5 cm longis 3–6 cm latis, ad marginem valde incrassatis; inflorescentia latiore quam latiore, floribus breviter pedicellatis; pedicellis 1–1.5 mm longis glabris; bracteis nullis; corolla 25 mm longa, tubo 17 mm longo, lobis lineari-ligulatis 8–9 mm longis basi 1.5 mm latis; antheris 5 mm longis apice breviter cuspidatis.

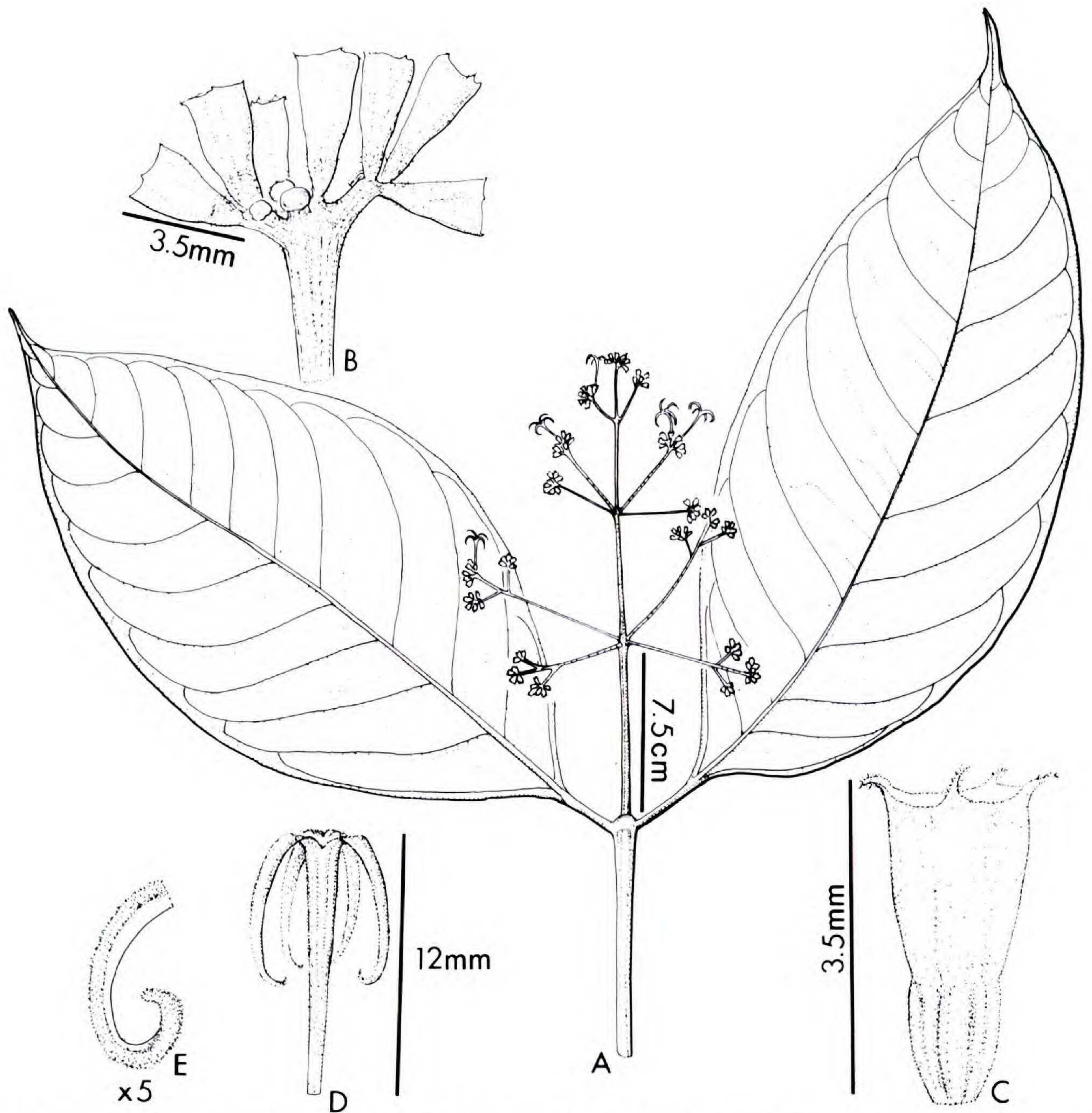


FIGURE 8. *Coussarea evoluta*.—A. Habit of flowering branch.—B. Detail of portion of inflorescence, corollas absent.—C. Calyx and hypanthium.—D. Corolla.—E. Distal portion of corolla lobe.

Tree 12 m tall, the young stems glabrous. Stipules persistent, laterally connate, the sheath 2–2.5 mm long, 3 mm wide, abruptly aristate, the arista indurated, 2–3 mm long, arising from just below the summit of the sheath, the part protruding above the summit 2 mm long. Leaf blades elliptic-oblong, abruptly obtusely caudate, acute at base, 10–15.5 cm long, 3–6 cm wide, the obtuse acumens 12–13 mm long, 1.5–2 mm wide, glabrous throughout, with a strong marginal nerve; principal lateral nerves widely spaced 8–13 mm distant, widely spreading-ascending at 10–25° angle, impressed above, slightly elevated below, the intermediate nerves finer

and less conspicuous below; petiole 10–13 mm long, glabrous; tertiary venation scarcely evident above, grossly and irregularly reticulate below, slightly manifest. Inflorescence terminal, pedunculate, 3.5 cm long, 6 cm broad, cymosely branched in 3 main divaricately spreading, glabrous axes 10–13 mm long, 0.5 mm diam., each axis branched into 2 lateral axes 5 mm long, mainly 3-flowered with a central short axis bearing a solitary flower; central flower 1 mm long pedicellate, other flowers 1–1.5 mm long pedicellate; pedicels glabrous. Bracts obsolete, not manifest. Calyx and hypanthium 2.5 mm long, glabrous; hypanthium columnar-urceolate, 1.5

mm long, 1.2 mm wide; calyx broadly cupulate, truncate or essentially so at apex, 0.8–1 mm long, 1.2–1.3 mm wide, eglandular within. Disk shortly columnar, 0.8 mm long. Corolla white, salverform, 25 mm long, the tube 17 mm long, 2 mm wide above, narrowing to 0.8 mm wide at base; 4 lobes linear-ligulate, narrowed to a rounded apex, 8–9 mm long, 1.5 mm wide at base, 0.5 mm wide at apex. Stamens 4, included; anthers linear, in the upper third of the corolla tube, cuspidate at apex, 5 mm long, 0.5 mm wide, the cusp 0.3 mm long.

From *Faramea neblinae* Steyermark, this species differs in the aristate stipules, marginally thickened nerves of the leaves, shorter pedicels, and shorter calyx and hypanthium. From *F. crassifolia* Benth. it differs in the longer corolla and anthers, differently shaped leaves, more evident lateral and tertiary nerves on the lower leaf surface, and absence of inflorescence bracts. From *F. angustifolia* Benth. & Hook. it differs in the truncate calyx and longer corolla and anthers. It differs from *F. panurensis* Muell. Arg. by having apiculate anthers, shorter peduncles, thickened marginal nerves, longer anthers, and vaginate stipules.

***Faramea morilloi* Steyermark, sp. nov.**

TYPE: Venezuela. Territorio Federal Amazonas: Parcela Fénologica, 16 km de Cruce con la carretera a Puerto Ayacucho–Sanariapo, via a Gavilán, 100 m, 17 Nov. 1977, G. Morillo 6716 (holotype, VEN).

Frutex 1.5–2-metralis glaber; stipulis aristatis, artistis 4–5 mm longis; foliis lanceolato-ellipticis apice acuminatis basi acutis 8–10.5 cm longis 1.5–3.5 cm latis; nervis lateralibus principalibus utroque latere 9–11; petiolis 2–3 mm longis; inflorescentia axillari solitaria; pedicellis sub anthesi 3–5 mm longis sub fructu 5–6 mm longis; bracteis duobus apice pedicelli insidentibus subulatis 10–12 mm longis; hypanthio calyceque 5 mm longis 1.1 mm latis, hypanthio 1 mm longo; calyce sub fructu deciduo; calycis tubo 2 mm longo lobis inaequalibus subulatis 1–2 mm longis; corolla hypocrateriformi, tubo 17 mm longo 1–1.2 mm lato, lobis quattuor angusto lanceolato-subulatis 7 mm longis 1–1.5 mm latis; staminibus quattuor inclusis, antheris linearibus 3 mm longis; stylo 15 mm longo; fructu

subgloboso rugoso 9 mm longo 11 mm lato; seminibus orbicularibus 7 mm diam. dorsaliter 8-costatis.

Shrub 1.5–2 m tall, glabrous. Stipular sheath 2 × 2 mm, aristae acicular, 4–5 mm long. Leaves papyraceous, lance-elliptic, acuminate at apex, acute at base, 8–10.5 cm long, 1.5–3.5 cm wide; principal lateral nerves 9–11 each side, with fainter intermediate nerves, widely spreading, conspicuously elevated and anastomosing below, inconspicuously impressed above; tertiary venation faintly reticulate above. Petioles 2–3 mm long. Inflorescence solitary, axillary, shortly pedicellate. Pedicels in anthesis 3–5 mm long, in fruit 5–6 mm long. Two bracts at apex of pedicel subulate, 10–12 mm long. Calyx and hypanthium 5 mm long, 1–1.15 mm wide; hypanthium short-columnar, 1 mm long; calyx deciduous in fruit; calyx tube short-cylindrical, 2 mm long, 1.5 mm wide, twice longer than the hypanthium, the lobes unequal, 2 elongated teeth with a lateral subulate appendage, one of the teeth with 2 shorter subulate projections 0.6 mm long on one side and another short subulate projection on the side of a longer tooth. Corolla hypocrateriform, the tube very slender, 17 mm long, 1–1.2 mm wide; 4 lobes narrowly lanceolate-subulate, recurved at tip, 7 mm long 1 mm wide above base, 1.5 mm wide at base. Stamens 4, included, inserted at the summit of the corolla tube. Anthers linear, 3 mm long; filaments 1 mm long, attached 4 mm below orifice of tube. Stigmas subulate, 3 mm long. Fruit depressed-globose, rugose, broader than high, 9 mm high, 11 mm broad. Seed 1, orbicular, 7 mm diam., with 8 longitudinal ridges radiating from dorsal side.

With its solitary axillary flowers, this taxon is related to *Faramea egregia* Sanders and *F. spathacea* Muell. Arg. ex Standley. From both of these it is distinguished by the smaller calyx and hypanthium, smaller corolla tube and lobes, and shorter petioles. The rugose fruits and ridged seeds are noteworthy. From *F. brevipes* Steyermark, it differs in the deciduous fruiting calyx, acutely acuminate leaves, and setaceous (vs. subfoliaceous) bracts subtending the calyx and hypanthium.

Faramea paludicola Steyermark & Boom, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Depto. Río Negro, upper Caño Baria, "swampy" area between Río Mawarinuma and headwaters of Río Baria, ca. 0°52'N, 66°15'W, 130 m, 26 Mar. 1984 (fl. buds), *R. Liesner 16960* (holotype, MO; isotypes, NY, VEN).

A *Faramea torquata* Muell. Arg. foliis nervis marginalibus valde prominentibus differt.

Shrub 2 m tall. Stipule with shallow coriaceous sheath broader than long, 7 mm wide, 4 mm high, glabrous, with a rigid awn 3 mm long arising from the center in a depression below the summit. Leaves coriaceous, elliptic-oblong, abruptly caudate at apex, acute at base, 23–30 cm long, 7–11 cm wide, conspicuously marginally nerved, glabrous on both sides, acumen obtuse, 13–18 mm long, 1.5–2 mm wide; lateral nerves strongly elevated below, impressed above, anastomosing 7–11 mm from margin, principal elevated nerves 15–18 each side; midrib stout, elevated above, impressed below; tertiary venation finely reticulate, subelevated both sides. Petiole glabrous, stout, vaginate in upper half, open adaxially, 15–17 mm long, 4 mm wide. Inflorescence slenderly pedunculate, terminal, 2–3 pedicels arising together, purple, 3–3.5 cm long, 1 mm wide, with 3–4 axes 8–12 mm long arising umbellately and divaricately, these separated 8–10 mm distance by a second higher tier of 3 axes 6–7 mm long, terminating in a final cluster of closely positioned several axes 2–3 mm long; axes of inflorescence purple, microscopically papillate but appearing glabrous; peduncle appearing glabrous, the base subtended by 2 bracteoles united by a suborbicular sheath 1 mm long terminating abruptly in a 2–2.5 mm glabrous awn. Flowers 3–5-umbellate at the ends of the lowest primary axes on pedicels 1–2 mm long. Flowers on purple pedicels, 2–3 mm long, 1 mm wide, ebracteolate. Calyx and hypanthium microscopically papillate-puberulent, 2–2.5 mm long; hypanthium obconic, 1.5–2 mm long, 2 mm wide at summit, gradually narrowed to a base 1 mm long; calyx

2–2.5 mm wide at summit, 0.8–1 mm high, subtruncate or slightly undulate; corolla green in bud, 4 mm long, 1 mm wide at base, 0.8 mm wide at the rounded tip, microscopically papillate-puberulent; corolla lobes in bud 2.5 mm long, ligulate, obtuse; anthers 1.5 mm long, filaments 1 mm long, attached at base of corolla; gynoecium immature. Fruit unknown.

Faramea yavitensis Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Yavita, 28 Jan. 1942, *Llewellyn Williams 14026* (holotype, VEN; isotype, F).

Frutex 2-metralis glaber; stipulis aristatis, aristis 4 mm longis; foliis elliptico-oblongis apice abrupte caudatis, acumine 7–12 mm longis, basi cuneatim acutis 12–16 cm longis 4–6.5 cm latis, nervis lateralibus utroque latere 7–10, venatio tertiaria inconspicua; petiolis 1.2–1.5 cm longis; infructescentia epedunculata, axibus secundariis tribus primariis umbellatis 2.7–3.2 cm longis; axibus secundariis tribus 8–10 mm longis apicem versus dilatatis ramosis, axibus sub fructu 4–5 mm longis; pedicellis sub fructu 4–5 mm longis; bracteis sub pedicellis subulatis persistentibus 2.5 mm longis; bracteis sub axibus primariis persistentibus subulatis 5.5 mm longis, sub axibus secundariis subulatis 3.5 mm longis; calycis tubo sub fructu persistenti 1–1.5 mm longo 1 mm lato, dentibus tribus vel quattuor, setaceis persistentibus sub fructu 2–3.5 mm longis; fructu subgloboso 4–5 mm longo 6–7 mm lato.

Glabrous shrub 2 m tall. Stipular teeth linear, 4 mm long, persistent on upper nodes, deciduous or not evident on lower nodes. Leaves elliptic-oblong, abruptly caudate at apex with acumen 7–12 mm long, cuneately acute at base, 12–16 cm long, 4–6.5 cm wide; lateral nerves 7–10 each side, divaricately spreading at an angle of 5–25°, elevated below, slightly elevated or impressed above; tertiary venation inconspicuous with large, areolate, impressed reticulation on both sides. Petioles 1.2–1.5 cm long. Infructescentia epedunculata, the 3 primary rays umbellate, 2.7–3.2 cm long, 1.5 mm wide, each ray terminating in 3 secondary axes 8–10 mm long and dilated apically; secondary axes ending in branches with 2 lateral fruiting pedicels 4–5 mm long on either side of a central sessile fruit. Bracts at base of axes persistent, subulate, those subtending pedicels 2.5 mm long, those subtending secondary axes 3.5

mm long, those subtending primary axes 5.5 mm long. Calyx teeth persistent in fruit, setaceous, 2–3.5 mm long. Fruit depressed-globose, 4–5 mm high, 6–7 mm broad.

This taxon is related to *Faramea multiflora* A. Rich. and its varieties (for discussion of these, see Mem. New York Bot. Gard. 17: 390–395. 1967) but differs from it and related species in having the persistent fruiting calyx with elongated teeth.

Faramea yutajensis Steyermark, sp. nov.

TYPE: Venezuela. Territorio Federal Amazonas: below summit of east slope of unnamed peak, 8 km NW of Yutajé settlement, 4 km west of Río Coro Coro, west of Serranía de Yutajé, 5°41'N, 66°10'W, 1,500–1,760 m, 4 Mar. 1987, R. Liesner & B. Holst 21640 (holotype, MO; isotype, VEN).

Frutex 2-metralis glaber; stipulis aristatis, aristis 2.2 mm longis; foliis oblanceolatis vel lanceolato-ellipticis apice abrupte obtuseque acuminatis basi acute attenuatis 8–14 cm longis 2–4.7 cm latis; acumen 5–12 mm longis, 3 mm latis, nervis lateralibus principalibus utroque latere 7–11 subhorizontaliter patentibus; venatio tertiaria subtus reticulata; petiolis 3–9 mm longis; inflorescentia terminali axillarique fere sessili vel pedunculata, pedunculo solitario 10–15 mm longo glabro infra apicem 2 mm lato basi 1.5 mm lato; bracteis duobus sub fructu ovatis acutis 13–23 mm longis 6–8 mm latis glabris; fructu globoso 9–10 mm longo 10–11 mm lato calyce persistente 2 mm longo 2.5 mm lato coronato.

Glabrous shrub, the stem 1-angled or ridged on each side. Stipular sheath triangular, carinate, 1 mm long, 1.2 mm wide at base, tapering into an acicular awn 2.2 mm long. Leaves oblanceolate or lance-elliptic, abruptly and obtusely acuminate at apex, the acumen 5–12 mm long, 3 mm wide, conspicuously acutely attenuate at base, 8–14 cm long, 2–4.7 cm wide, slightly decurrent on petiole; principal lateral nerves 7–11 each side, subhorizontally spreading, anastomosing near margin, slightly elevated below, slightly sulcate above, intermediate nerves shorter and less conspicuous; tertiary venation reticulate and slightly manifest below, faintly reticulate above. Petioles 3–9 mm long. Inflorescence terminal and axillary, nearly sessile or on a

peduncle 10–15 mm long. Peduncles slightly dilated to 2 mm toward summit, 1.5 mm wide at base, solitary. Subtending two bracts at base of fruit ovate, acute, 13–23 mm long, 6–8 mm wide. Fruit globose, 9–10 mm high, 10–11 mm wide, crowned by the persistent calyx tube, this 2 mm long and 2.5 mm wide.

This species is distinguished by having solitary primary inflorescence axes with only one or few flowers which terminate the peduncle and by the subtending enlarged bracts. *Faramea yutajensis* differs from *Faramea anisocalyx* Poeppig & Endl. by having smaller green bracts and by having the solitary primary ray bearing one to few flowers. From *F. parvibractea* Steyermark and *F. cardonae* Steyermark it differs in the solitary peduncle with one to few flowers.

FERDINANDUSA

Ferdinandusa boomii Steyermark, sp. nov.

TYPE: Venezuela. Territorio Federal Amazonas: Cerro de la Neblina, Base Camp, Río Mawarinuma, 0°50'N, 66°10'W, 8 Dec. 1984, 140 m, B. Boom & A. Weitzman 5274 (holotype, MO; isotypes, NY, VEN, GH, INPA, PORT, U, COL, BR, K).

A *F. schultesii* Steyermark corollis longioribus, pedicellis longioribus, foliis majoribus plerumque basi late rotundatis vel subcordatis recedit; corollis 40–41 mm longis, tubo 35 mm longo; pedicellis 2–4 mm longis; foliis 7.3–14 cm longis 5–9 cm latis basi rotundatis vel paullo subcordatis.

Tree 10 m tall; stems densely puberulent; petioles glabrous both sides, 8–15 mm long. Leaf blades coriaceous, ovate to oblong-ovate, abruptly shortly and obtusely acuminate at apex, rounded or slightly subcordate at the base, 7.3–14 cm long, 5–9 cm wide, the acumen 5–6 mm long, 2–3 mm wide, glabrous on both sides; lateral nerves 7–8 each side of midrib, arcuate-ascending to the margins; tertiary venation conspicuously reticulate above, the smaller areolae 2–3 mm diam. Inflorescence terminal with 3–5 pedunculate cymes, 4–4.5 cm long, 4–4.5 cm wide, each cyme 4–12-flowered; peduncle of each cyme 1–2 cm long, minutely puberulent-hirtellous

with divaricate hairs; axes of cyme similarly pubescent. Calyx and hypanthium 2–2.5 mm long, the hypanthium columnar-obconic; calyx lobes 4, deltoid, obtusely acute, 0.2–0.5 mm long, 0.7 mm wide at base, sparsely short ciliolate on margins and in sinuses, apparently eglandular within. Disk shorter than to equaling calyx lobes. Corolla 40–41 mm long, glabrous without and within, the tube 35 mm long, 2.5 mm wide throughout except at orifice where 5 mm wide; 4 lobes 4 mm long, 4.5–5 mm wide, lobed above the middle, glabrous within and at sinuses; 4 stamens unequally inserted above style, in the upper $\frac{7}{8}$ of the tube; anthers broadly oblong, 1.2 mm long, rounded at both ends; filaments 5 mm long. Style ending 7 mm below orifice of corolla.

From *Ferdinandusa schultesii* Steyermark, to which this species is related, it is separated by the longer corolla and corolla tube, longer pedicels, and larger leaves generally broadly rounded to subcordate at the base.

MORINDA

Morinda longipedunculata Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Dept. Río Negro, Cerro de la Neblina, Canyon Grande, along Río Mawarinuma between the mouth of the canyon and the first major fork of the river, 7 airline km ENE of Puerto Chimo, 0°50'N, 66°02'W, 350–400 m, 9–14 July 1984, *G. Davidse & J. S. Miller* 27327 (holotype, MO; isotype, VEN). Figure 9.

Frutex 2-metralis; foliis late oblanceolatis apice abrupte caudatis basi cuneatis 17–30 cm longis 6–8 cm latis supra glabris subtus modice hirtellis pilis patentibus instructis; pedunculis axillaribus 20 cm longis breviter puberulis; floribus 4-meris; calyce cupuliformi-campanulato 1.5 × 1.5 mm subtruncato extus hispidulo; corolla cylindrica extremitatibus angustatis alabastro 8 mm longa extus hispidula.

Shrub 2 m tall; upper part of stems densely pubescent with short, appressed-ascending hairs. Stipule deeply bifid, short-pubescent without, the subulate teeth 2.5 mm long. Petioles 1.5–2 cm long, moderately hirtellous. Leaf blades membranous, broadly oblanceo-

late, abruptly caudate at apex, long tapering to a cuneate decurrent base, 17–30 cm long, 6–8 cm wide, upper surface with scattered, pale raphides, glabrous, the lower surface moderately hirtellous with spreading hairs; midrib and lateral nerves densely pubescent with spreading hairs 0.5–0.6 mm long; lateral nerves 9–10 each side; tertiary venation inconspicuous below, scarcely manifest above. Peduncles axillary, greatly elongated, equaling or slightly shorter than leaves, 20 cm long, 2 mm wide, moderately shortly puberulous, apically branched into 3–4 primary axes 9 mm long in anthesis, the primary axes again branched into 3–4 secondary axes 3–4 mm long (in anthesis), 10 mm long (in fruit). Bracts at base of secondary axes shallowly 3–4-lobed, 2 mm long (fruiting). Flowers 4-merous, at summit of secondary axes, congested, sessile, several. Calyx cupuliform-campanulate, 1.5 × 1.5 mm, subtruncate with shallowly raised border, hispidulous without. Corolla cylindric-tubular, 8 mm long (late bud), 1.5 mm wide at the middle, slightly narrower at apex and base, outer surface hispidulous except glabrous in basal 1.2 mm; tube glabrous within; lobes suborbicular, rounded, 0.5 × 0.5 mm. Stamens inserted in the lower third of the corolla; anthers linear-oblong, 2.2 mm long. Disk cupuliform, 0.5 mm high. Ovary 4-celled. Fruit dark red, globose, 7–8 mm long, 8–8.5 mm diam., umbonate, 4-seeded.

This taxon is noteworthy for the exceptionally elongated peduncle.

PSYCHOTRIA

Psychotria anartiothrix Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Dept. Río Negro, lower part of Río Baria, inundated forest along river, 1°10'N, 66°25'W, 22–23 July 1984, 80 m, *Gerrit Davidse* 27651 (holotype, MO; isotype, VEN).

Frutex 2-metralis, stipularum aristis acicularibus 5–6 mm longis minute puberulentibus glabrescentibus; foliis elliptico-lanceolatis extremitatibus acutis 4–8.5 cm longis 1–2.5 cm latis; inflorescentia dense cymoso-corymbosa,

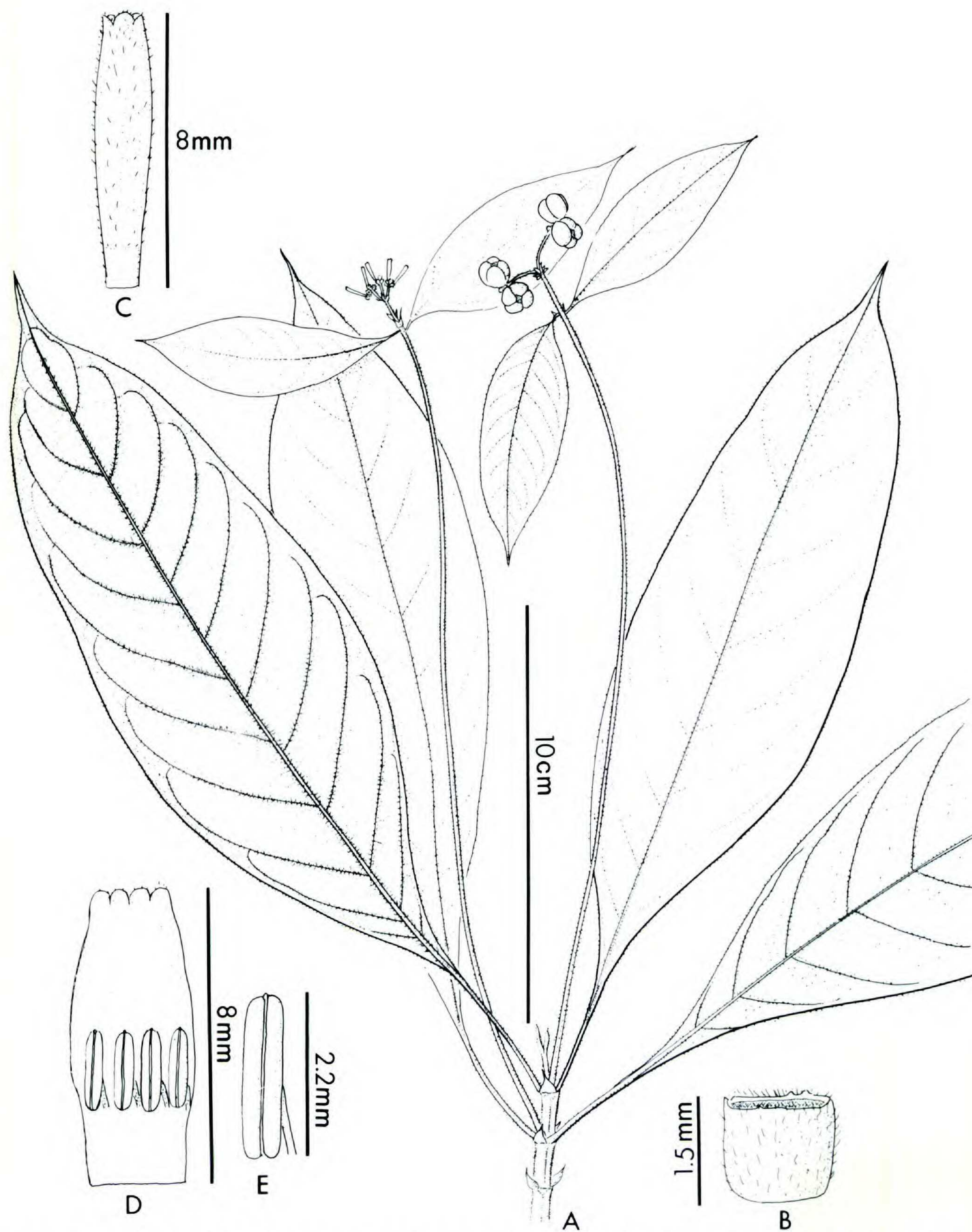


FIGURE 9. *Morinda longipedunculata*.—A. Habit of flowering and fruiting branch.—B. Calyx and hypanthium.—C. Corolla, late bud stage.—D. Corolla, interior view.—E. Stamen, ventral view.

axibus principalibus tribus angulis superioribus seriebus verticalibus pilis brevibus divaricatis rigidiusculis praeditis; corollae tubo hypanthioque similiter pubescentibus.

Shrub 2 m tall with glabrous stems. Stipular sheath 1 mm long, 2 mm wide, truncate, bearing on each side 2 acicular teeth 5–6

mm long arising 0.3 mm below summit of sheath, minutely puberulent becoming glabrous. Leaf blades subcoriaceous, elliptic-lanceolate, acute at base and apex, 4–8.5 cm long, 1–2.5 cm wide, glabrous throughout except for minutely hispidulous puberulous

midrib on lower side, or completely glabrous; lateral nerves 8–9 on each side of midrib, arcuately ascending at 15–30°, subelevated below, slightly anastomosing near (1–2 mm) the margin, inconspicuous above; tertiary nerves slightly evident both sides. Inflorescence densely cymose-corymbose, 8 mm high, 1.6 cm broad, pedunculate; peduncle 1.4–1.8 cm long, 1 mm diam., microscopically puberulent on the angles with spreading hairs. Three main axes of inflorescence 2–3 mm long, 0.5–1 mm wide, densely flowered, shortly branched, microscopically puberulent with spreading, stiff, puberulent-hispidulous hairs in vertical lines on the angles. Flowers sessile; calyx and hypanthium 1.2 mm long in anthesis; hypanthium short-columnar, 0.5 mm long, 0.4 mm wide, minutely hispidulous on angles, glabrous elsewhere; calyx cupulate, 5-lobed, 0.7 mm long, 1.1 mm broad; teeth broadly shallowly triangular, subacute, 0.5 mm long, 0.8 mm wide, ciliolate on margins, dorsally puberulent, eglandular within. Corolla white, cylindric, broadened at orifice, 5 mm long; tube 3.5 mm long, 0.7 mm wide except 1 mm wide at orifice and 0.9 mm wide at base, sparsely puberulent-hispidulous in lines without, pilose in upper 1.5 mm within; 5 lobes fleshy and thickened with a coriaceous apex 1.5 mm long, 0.6 mm wide, puberulent in lines. Stamens 5, included, attaining the orifice, the upper half of corolla; anthers linear, obtuse at apex, 0.8 mm long. Stigmas 2, rhomboid-ligulate, truncate at apex, papillate-puberulent, 0.3 mm long; style filiform, papillate, 3 mm long. Disk depressed cupulate, shorter than calyx lobes, 0.4 mm high. Fruit orange, globose, 5 × 5 mm; pyrene dorsally acutely 3-costate, ventrally flat with a narrow sulcate depression along the middle.

The minute puberulence of short, stiffish, divaricate hairs in more or less irregular vertical lines along the upper angles of the inflorescence axes, exterior of corolla tube, and the hypanthium is characteristic of this taxon.

Psychotria edaphothrix Steyermark, sp. nov. TYPE: Venezuela. Bolívar: 0–3 km west of El Polo (8.6 km west of El Pauji),

4°30'N, 61°40'W, 650–800 m, 5 Nov. 1985, *R. Liesner 19595* (holotype, MO; isotype, VEN). Figure 10.

Frutex 3-metralis; stipulae vagina 2 mm longa 5.5 mm lata glabra in dentes duos triangulari-lanceolatos longiattenuatos 4 mm longos 1.5 mm latos glabros desinenti; foliorum laminis oblongo-ellipticis vel late oblanceolatis apice acuminatis basi acutis utrinque glabris; nervis lateralibus principalibus utroque latere 17–21; venulis tertiariis cum nervis lateralibus conspicue transversim conjunctivis; inflorescentia capitulis subhemisphaericis tribus densifloris praedita, pedunculo 1.2–6 cm longo dense tomentoso pilis brunneis divaricatis munito; hypanthio dense tomentoso-hirsutulo; calycis lobis 0.8 mm longis ciliatis; corolla alba, sub anthesi 14 mm longa basi 2 mm lata omnino symmetrica, tubo intus basi pilis brevibus vestito.

Shrub 3 m tall, the stem glabrous. Stipule sheath 2 mm high, 5.5 mm wide, glabrous with 2 triangular-lanceolate, long-attenuate teeth on each side, 4 mm long, 1.5 mm wide at base, interior of sheath with numerous aculeiform processes. Leaves oblong-elliptic to broadly oblanceolate, acuminate at apex, acute at base, (9.5–)17–25 cm long, (3–)6–8.5 cm wide, glabrous both sides; lateral nerves 17–21 each side, ascending at an angle of 25–35°, elevated below, impressed above; tertiary veinlets conspicuously transversely connecting the secondary nerves, conspicuously elevated below with reticulate pattern. Inflorescence 2.5–4 cm high, 2.5–6 cm wide, divided into 3 densely-flowered, subhemispherical heads, these 1.7–2.5 cm high, 1–3 cm broad; peduncle 1.2–6 cm long, 1.5–2.5 mm wide, densely brown tomentose with spreading hairs. Main axes of inflorescence 0.8–2 cm long, ascending to divaricate, densely brown tomentose. Bracts of inflorescence lanceolate, caudate-acuminate, arising at the sides and apices of the axes, but not at their bases. Flowers 15–21 in one branched axis, 42–63 in one inflorescence, sessile, each flower subtended laterally by 2 lanceolate, caudate bracts 6 mm long, 1 mm wide, puberulous on both sides, the 2 bracts subtended by a larger middle bract 9 mm long, 2.5 mm wide, oblanceolate, acuminate-caudate, puberulous on both sides, with a larger outer bract, this lanceolate, caudate-acuminate, 13 mm long, 3 mm wide, puberulous on both sides. Calyx and hypanthium 2 mm long, the hypanthium 0.5 mm high, 1.5 mm wide,

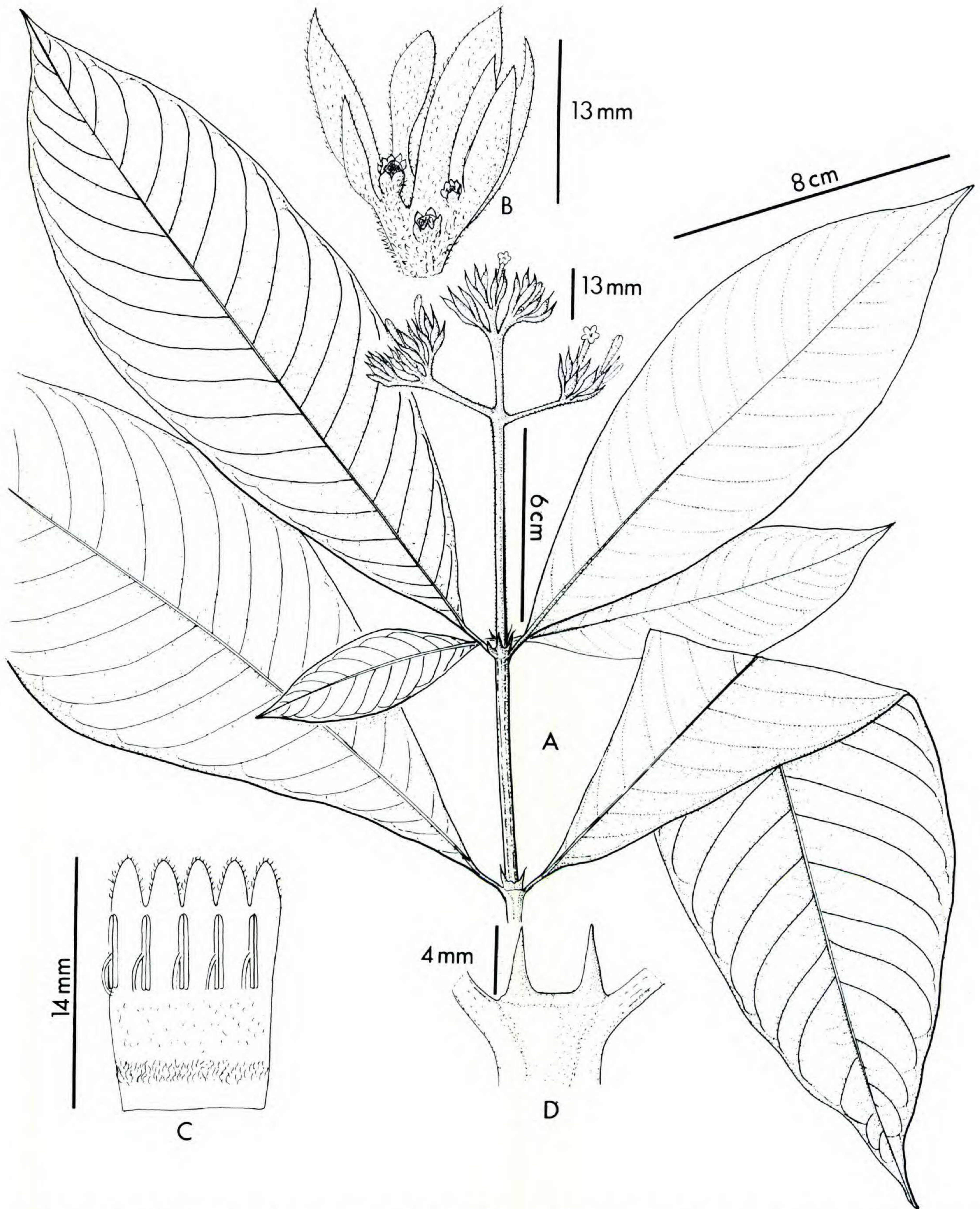


FIGURE 10. *Psychotria edaphothrix*.—A. Habit of flowering branch.—B. Portion of inflorescence, corollas absent.—C. Corolla, interior view.—D. Stipule with bases of petioles.

densely brown tomentose-hirsutulous; calyx lobes 5, deltoid, obtusely acute, 0.8 mm long, 1 mm wide at base, ciliate, glandular within in sinuses. Corolla white, cylindric, symmetric, 14 mm long, 3.5 mm wide below orifice, 2 mm wide at base, densely pilosulous without

with spreading hairs, glabrous without at the very base, within shortly pubescent at base with a zone of hairs 1 mm above base; corolla lobes oblong-ovate, 2 mm long, 1.2–1.5 mm wide. Stamens 5, included in the upper half; anthers linear, obtuse at apex, 3 mm long,

the filaments inserted half way up corolla tube. Disk subcupulate, about the height of the calyx tube.

Psychotria edaphothrix is somewhat intermediate between *Palicourea* and *Psychotria*, in some respects resembling *Palicourea longistipulata* (Muell. Arg.) Standley in the densely pubescent zone confined to the interior base of the corolla tube, aculeiform structures within the stipular sheath, pubescent exterior of the corolla, and large leaves with numerous lateral nerves. It differs, however, in the large subtending bracts of the compact inflorescence, densely tomentose calyx, glabrous stem and leaves, and white, symmetrical corolla and white bracts. In other respects the new taxon resembles *Psychotria maturacensis* Steyerl. of the Neblina area, but the stipular sheath is conspicuously bidentate on each side, the hypanthium is densely tomentose, the calyx lobes are conspicuous and densely ciliate, and the leaves have more lateral nerves on each side. Since the corolla is symmetrical and shows no gibbosity at base, I am including it in *Psychotria* as a borderline species.

***Psychotria pectinata* Steyerl., sp. nov.**

TYPE: Venezuela. Territorio Federal Amazonas: Cerro de la Neblina, white water tributary of Río Mawarinuma, ca. 3 km upstream (SE) of Base Camp, 0°49'N, 66°08'W, 150 m, 17 July 1984, *Ronald Liesner 15955* (holotype, MO; isotype, VEN). Figure 11.

Frutex 0.75–2 m tall, caulibus glabris; stipulae dentibus setaceis 4–5 mm longis 0.2–0.3 mm latis dense pectinato-ciliatis pilis brunneo-hirtellis vestitis; foliorum laminis anguste oblanceolatis vel lanceolato-ellipticis apice acutis vel acuminatis basi cuneatim acutis utrinque glabris 10–15 cm longis 1.5–2.5 cm latis; inflorescentia monocephala vel in capitula tria vel quattuor ramosa 5–6 mm longo 10–11 mm lato densiflora; pedunculo 3–13 mm longo 1 mm lato glabro; bracteis sub inflorescentia duas, anguste lanceolatis 4 mm longis; floribus parvis, corollae tubo 2 mm longo, lobis 1.8 mm longis valde corniculatis; fructu elliptico-oblongo 9 mm longo 5 mm lato obtuse 10-costato.

Shrub 0.75–2 m tall, the stems glabrous. Stipular sheath 2.5–3 mm long, 4 mm wide

with 2 elongated, setaceous or lance-linear teeth 4–5 mm long, 0.2–0.3 mm wide, densely pectinate-ciliate with brown, hirtellous hairs. Petiole 5–15 mm long, glabrous. Leaves lanceolate-elliptic or narrowly oblanceolate, acute to acuminate at apex, cuneately acute at base, partly decurrent on the petiole, 10–15 cm long 1.5–2.5 cm wide, glabrous on both sides; lateral nerves 8–10 each side of the midrib, 1.5–3 mm distant, slightly impressed on both sides, the midrib slightly raised above. Inflorescence capitate, 5–6 mm high, 10–11 mm broad, monocephalous or branched into 3–4 heads, 15–40-flowered, axillary or terminal, with 2 spreading bracts at the base at the summit of the peduncle. Peduncle erect, 3–13 mm long, 1 mm wide, glabrous. Each axis of the inflorescence bearing ca. 5 closely crowded, pedicellate flowers and subtended by 3–4 lanceolate, acute, brown-ciliate bracts 1.5 mm long. Pedicels 0.5–1 mm long, glabrous. Calyx tube and hypanthium 1.5–2 mm long, glabrous; hypanthium obconic, 1 mm long, 1–1.5 mm above; calyx lobes 5, conspicuous, spreading and slightly squarrose, lanceolate, acute, 0.8–1.5 mm long, 0.5–0.6 mm wide, ciliolate. Disk higher than calyx tube in anthesis, fleshy, oblong-ovoid. Corolla white, small, the tube broadly cylindrical, 2 mm long, 1.5 mm wide at summit, 1.3 mm wide at base, glabrous without; lobes 5, recurved, 1.8 mm long, 0.8 mm wide, conspicuously corniculate, the tube densely pubescent within at orifice. Stamens at orifice, slightly protruding above the tube; anthers 0.5 mm long; filaments 0.4 mm long. Style filiform, glabrous, 2 mm long, exerted. Fruit elliptic-oblong, 9 mm long, 5 mm wide, glabrous, obtusely 10-costate, crowned by the persistent calyx.

Paratypes. VENEZUELA. TERRITORIO FEDERAL AMAZONAS: Cerro de la Neblina, Río Mawarinuma, upstream from Base Camp, 0°50'N, 66°10'W, 140 m, 2 May 1984, *Stein, Gentry & Thomas 1715* (MO, VEN); Cerro de la Neblina, Caño Blanco, white water tributary of Río Mawarinuma, ca. 3 km upstream (SE) of Base Camp, 0°49'N, 66°8'W, 150 m, *Miller 1766* (MO, VEN); same locality, *Boom et al. 5714* (MO, GH, INPA, PORT, U, NY, VEN); same locality, *Croat 59612* (MO, VEN).

This species is readily distinguished by the densely hirtellous, pectinate-ciliate stipular

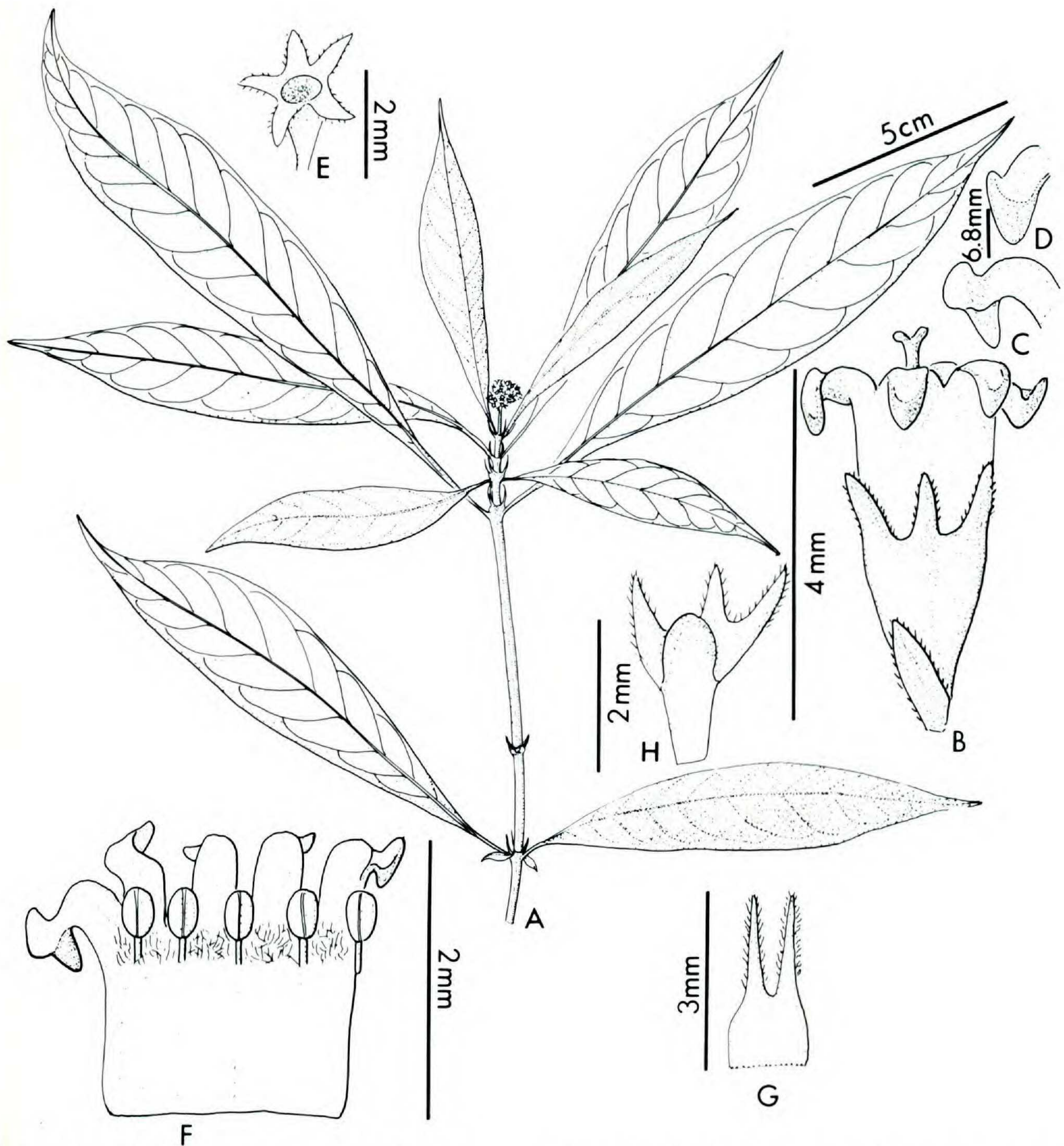


FIGURE 11. *Psychotria pectinata*.—A. Habit of flowering branch.—B. Flower from outer portion of inflorescence with a subtending bract.—C, D. Showing corniculate corolla lobe.—E. Calyx and hypanthium.—F. Corolla, interior view.—G. Stipule.—H. Disk and portion of calyx and hypanthium.

teeth, densely flowered heads of small flowers, brown-ciliate, elongate calyx lobes, and strongly corniculate corolla lobes. It was noted that within a densely flowered head of an inflorescence only one or a few flowers produce seed, and the majority do not possess a fertile ovary. There may be a tendency here for monoecism.

Psychotria steinii Steyermark, sp. nov.
TYPE: Venezuela. Territorio Federal Amazonas: Cerro de la Neblina, summit, Camp 2, 2–8 km NE of Pico Phelps,

0°49'40"N, 65°59'W, 15 Apr. 1984, 2,100 m, B. A. Stein & A. Gentry 1553 (holotype, MO; isotype, VEN). Figure 12.

Suffrutex vel subherbacea 0.35–1-metralis, caulibus plerumque glabris; foliorum laminis ovatis apice acuminatis basi acutis vel obtusis 2.5–4.5 cm longis 0.9–1.5 cm latis utrinque glabris marginibus valde ciliatis; petiolis 2–3 mm longis; inflorescentia terminali plerumque tribus simul, omnibus conspicue bracteatis, bracteis foliaceis 4–7 ovatis acutis vel acuminatis 8–13 mm longis 3–5 mm latis glabris vel basim versus sparsim hirtellis, marginibus ciliatis; pedunculo pubescenti; inflorescentiae axibus pubescentibus; corolla 11–11.5 mm longa, tubo intus minute papillato sed admodum glabro extus glabro.

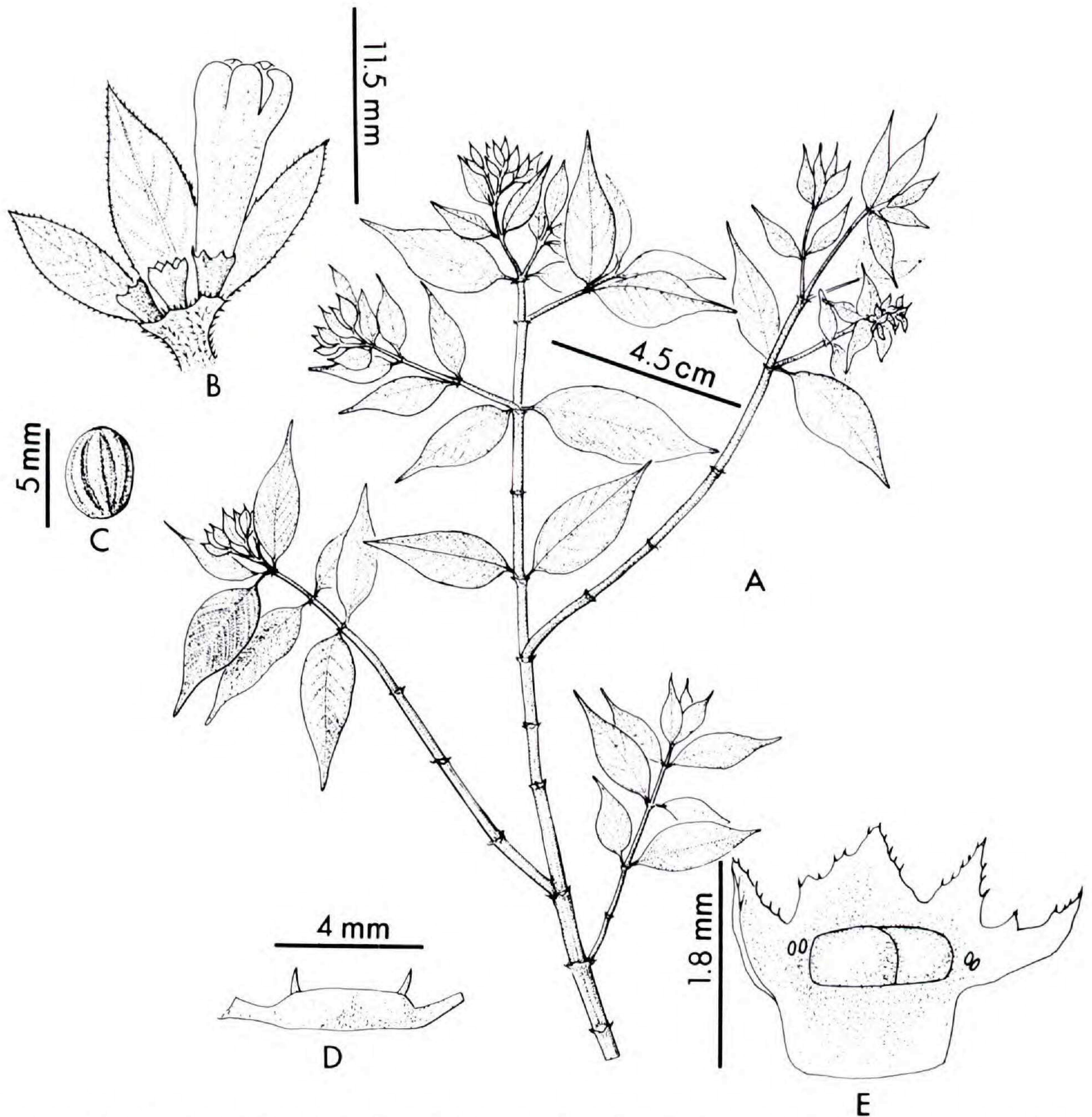


FIGURE 12. *Psychotria steinii*.—A. Habit of flowering branch.—B. Portion of inflorescence.—C. Pyrene.—D. Stipule with bases of petioles.—E. Calyx, showing portion of interior with calycine glands and disk.

Subherbaceous or suffruticose plant 0.35–1 m tall, the stems glabrous except at upper youngest nodes where hirtellous with spreading hairs. Stipule with a shallow sheath 0.2–0.5 mm high, 1–4 mm wide, glabrous, indurated with 2 teeth on each side, linear-lanceolate, acute, 0.5–0.8 mm long. Leaves shortly petiolate, leaf blades subcoriaceous, ovate, acuminate at apex, acute to obtuse at base, 2.5–4.5 cm long, 0.9–1.5 cm wide, glabrous on both surfaces, the margins strongly ciliate, the lower side with conspicuous cystoliths; midrib below glabrous to hirsutulous-ciliolate along margins; lateral nerves 6–8 on each side of the midrib, sulcate above, slightly elevated below, ascending at a 45°

angle, ending near or at margins without anastomosing; tertiary venation inconspicuous; petioles 2–3 mm long. Inflorescence terminal, usually 3 together; each inflorescence with 4–7 conspicuous, foliaceous bracts arising at the summit of 2 short lateral axes 1–2 mm long and 1 central sessile axis scarcely 1 mm long; bracts green, similar to leaves in shape but smaller, ovate to elliptic-oblongate, acute to acuminate, 8–13 mm long, 3–5 mm wide, glabrous or sparsely hirtellous toward base, the margins ciliolate, the narrower lateral bracts narrowed to a subpetiolate base, the broader bract subtending the inflorescence at a slightly lower level and not narrowed at base. Peduncle 3–10 mm long,

0.6–0.8 mm wide, densely hirtellous with spreading hairs 0.1 mm long. Flowers sessile, 2, or 2 on each axis. Calyx and hypanthium 1.5–1.8 mm long; hypanthium short columnar, 1 mm long, 1 mm wide at summit, glabrous; calyx 0.8–1 mm long, unequally 5-lobed, the tube 0.5–0.6 mm long, 1.5 mm wide, glabrous without; lobes broadly triangular, narrowed to a subacute apex, 0.5–0.7 mm long, ciliolate on margins, glabrous elsewhere, irregularly erose, glandular within at base of each of the 5 sinuses. Corolla white, tubular-infundibuliform, 11–11.5 mm long, the tube gradually enlarged upward, 7–8 mm long, 2 mm wide at base, 4 mm wide at orifice, glabrous without, within microscopically papillate but essentially glabrous; lobes 5, 4–4.5 mm long, 2 mm wide, ligulate-oblong, obtuse, glabrous without, microscopically papillate within but essentially glabrous. Stamens protruding slightly above orifice; anthers linear, 2.5 mm long, 0.4 mm wide at the orifice; filaments attached in upper half of tube, 2 mm long; disk shorter than calyx tube. Fruit blue, fleshy, subglobose, 11 mm long, 12 mm wide, 2-seeded; pyrenes broadly ovoid, dorsally 3-costate with 1 additional costa on each side, the inner face subconcave, 5 mm long, 3.5 mm wide.

Paratypes. VENEZUELA. TERRITORIO FEDERAL AMAZONAS: Cerro de la Neblina, Camp 12, Venezuelan-Brazilian frontier, 1,950 m, 26–27 Feb. 1985, *Boom et al.* 5982 (MO, VEN, GH, INPA, NY).

This taxon is related to *Psychotria duidana* Standley of Cerro Duida and *P. oblata* of Mount Roraima. It is characterized by the essentially glabrous, although minutely papillate, interior of the corolla tube, much smaller, ciliolate leaves, densely pubescent peduncle, smaller corolla, and pubescent axes of the inflorescence above the peduncle.

Psychotria thesceloantha Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: upper Caño Baria, swampy area between Río Mawarinuma and headwaters of Río Baria, 0°52'N, 66°15'W, 130 m, 4 Dec. 1984, *R. Lies-*

ner 16963 (holotype, MO; isotype, VEN). Figure 13.

Suffrutex 1-metralis, caulibus glabris; stipulae vagina truncata 5 mm longa 9 mm lata glabra; foliorum laminis elliptico-ovatis apice acutis vel obtuse subacuminatis basi cuneatim acutis 21–24 cm longis 10–11 cm latis; inflorescentia axillari ut videtur monocephala 2 cm longa 4 cm lata brevipedunculata, petiolo 0.4 mm longo glabro; bracteis extimis quattuor capitulum cingentibus basi liberis, elliptico-ovatis, apice abrupte acuminatis basi rotundatis 2 cm longis 1.3–1.5 cm latis extus puberulentibus intus glabris; floribus omnibus a bracteolis duabus circumcinctis bracteolis lanceolato-linearibus acuminatis 13 mm longis 1.5 mm latis setuloso-serrulatis; calycis lobis aristatis 2.5–4 mm longis ciliato-plumosis.

Suffruticose plant 1 m tall, the stem glabrous, 4–5 mm diam. except 8–10 mm diam. at nodes. Leaves large, submembranous, leaf blades elliptic-ovate, the apex acute to obtusely subacuminate, the base cuneately acute, 21–24 cm long, 10–11 cm wide, glabrous below except minutely sparsely puberulent on midrib and nerves; lateral nerves 10–11 each side; tertiary venation not evident; petiole 4.5–5 cm long, glabrous to sparsely puberulent. Inflorescence axillary, subhemispheric, 2 cm long, 4 cm wide, appearing monocephalous on a short glabrous peduncle 0.4 mm long, not enveloped by the stipular sheath, consisting of 3–4 separate monocephalous heads in a compact mass appearing as monocephalous, each portion of the head hemispheric, 1.8–2 cm long, 2–2.8 cm wide, the complete head surrounded by 4 main outermost bracts separate to the base, elliptic-ovate, abruptly acuminate, rounded at base, carinate, 2 cm long, 1.3–1.5 cm wide, puberulent without, glabrous within; large bracts within the outermost bract broadly ovate, acute, ecarinate, 1.5 cm long, 1 cm wide, puberulent without, glabrous within; each of the 3–4 smaller heads consisting of multibracteate flowers, each surrounded by an obovate, abruptly acuminate bractlet 1.5 cm long, 0.5 cm wide, puberulent on both sides; each bractlet subtending 2 oblanceolate bracteoles rounded at apex, 1.2–1.3 cm long, 0.4 cm wide, puberulent without, sparsely puberulent within and subtending a group of 3 flowers; each pair of bracteoles subtending an ultimate pair of floral bracteoles, these lanceolate-linear, acumin-



FIGURE 13. *Psychotria thesceloantha*.—A. Habit of flowering branch.—B. Individual flower without corolla, subtended by two bracteoles and a bract.—C. Inflorescence with bracts.—D. One of the inner bracts of the inflorescence.

ate, 1.3 cm long, 1.5 mm wide, setulose-serrulate in the upper half of the margins. Hypanthium obconic-columnar, 2 mm long, 1 mm wide, glabrous; calyx lobes 5, setaceous, unequal, plumose-ciliate.

This unusual species has large, axillary, compound inflorescences that appear to be monocephalous but are composed of 3–4 condensed heads having the outermost and major bracts separate to the base. The ultimate three flowers are surrounded by narrowly oblanceolate, serrulate-ciliate bractlets, with the large inner bracts acuminate and puberulent on both sides, while the calyx lobes are elon-

gate, awnlike, and plumose-ciliate. In the present taxon the inflorescence is not enveloped by the stipular sheath as in *Psychotria celiae* Steyerem. of Cerro de la Neblina.

***Psychotria yutajensis* Steyermark, sp. nov.**

TYPE: Venezuela. Territorio Federal Amazonas: Dept. Atures, summit of east slope of unnamed peak, 8 km NW of Yutajé settlement, 4 km west of Río Coro Coro, west of Serranía Yutajé, 5°41'N, 66°10'W, 1,500–1,760 m, 4 Mar. 1987, *R. Liesner & B. Holst* 21649 (holotype, MO; isotype, VEN).

Frutex 1.5-metralis glaber; stipulis leviter dentatis, vagina 1.5 mm alta 4–6 mm lata, utroque latere bidentatis, dentibus late ovato-lanceolatis acutis 1–2 mm longis intus sericeis; petiolis 9–20 mm longis; inflorescentia terminali multiflora subcorymboso-cymoso vel cymoso-subhemisphaerica pedunculo excluso sub anthesi 2–2.5 cm longa 3–4 cm lata, axibus 5–8 cum rhachidi minute puberulentibus sub anthesi 3–15 mm longis sub fructu 10–23 mm longo, supremis brevissimis; pedunculo 10–12 mm longo 2 mm lato glabro; bracteis sub axibus lanceolato-triangularibus apice attenuatis; floribus 5-meris pedicellatis, pedicellis articulatis 0.5–1.5 mm longis 0.5–0.8 mm latis; calyce hypanthioque 2.3 mm longo, hypanthio doliiformi vel breviter cylindrico 1.2 × 1.2 mm minute puberulenti; calyce 1.2 mm longo 1.5 mm lato minute puberulenti, tubo 1 mm longo intus ad medium infra sinus 1-glandulifero, calycis dentibus triangulari-lanceolatis acutis 0.2–0.3 mm longis; corolla doliiformi 3 mm longa ad medium 1.6 mm lata, tubo 2.5 mm longo extus dense papillato-puberulenti, lobis lineari-oblongis obtusis 0.7 mm longis 0.4 mm latis dorso conspicue corniculatis, corniculis incrassatis; staminibus prope basim corollae insertis; bacca subbilobata 4–5 mm longa 6 mm lata calyce persistenti coronata; pyrenis subglobosis 3.5 × 3.5 mm dorso convexis ventraliter concavis.

Glabrous shrub 1.5 m tall. Stipular sheath shallow, 1.5 mm high, 4–6 mm wide, laterally 2-toothed on each side with the teeth broadly ovate-lanceolate, acute, 1–2 mm long, sericeous within. Leaves chartaceous, lanceolate-elliptic, broadest at the middle, acute at base and apex, 8–13 cm long, 2.5–5 cm wide. Petioles 9–20 mm long. Inflorescence terminal, many-flowered, 2–2.5 cm high excluding the peduncle, 3–4 cm wide in anthesis, 2.5–3.5 cm high, 4–7 cm wide in fruit, the 5–8 axes irregularly and ± trichotomously branched at the apices, in anthesis 3–15 mm long, in fruit 10–23 mm long, 1–1.5 mm wide, the upper ones the shortest. Peduncle green, becoming purple, 10–12 mm long, 2 mm wide, glabrous. Bracts at the base of the axes lance-triangular with subulate tips, 0.6–1 mm long, glabrous. Flowers numerous, 5-merous, pedicellate, pedicels green becoming gray-purple, 0.5–1.5 mm long, articulate. Calyx and hypanthium 2.3 mm long, the hypanthium barrel-shaped or shortly cylindrical, 1.2 × 1.2 mm, minutely puberulent; calyx 1.2 mm high, 1.5 mm wide, minutely puberulent, the tube longer than the teeth, these triangular-lanceolate, acute, 0.2–0.3 mm long; interior of tube bearing 1 gland at the middle beneath each sinus and alternating

with each calyx tooth. Corolla white, barrel-shaped, 3 mm long, 1 mm wide at base, 1.6 mm wide at the middle, 1.2 mm wide at the summit, tube 2.5 mm long, densely papillate-puberulent without, glabrous within; 5 lobes linear-oblong, obtuse, 0.7 mm long, 0.4 mm wide, conspicuously dorsally corniculate with a thickened appendage. Stamens 5, inserted at the base of the corolla; anthers 2 mm long, 0.3 mm wide. Style 0.8–1 mm long; stigmas linear-lanceolate, acute. Disk cupular, 0.3 mm high. Fruit green to purplish black, ± bilobed, 4–5 mm high, 6 mm broad, shallowly crowned by the persistent calyx. Pyrenes 2, subglobose, 3.5 × 3.5 mm, convex dorsally, concave ventrally.

This species is related to *Psychotria ceratantha* Standley & Steyermark of the Venezuelan Guayana, from which it differs in the smaller corollas with internally glabrous tubes with the stamens attached at the base.

RUDGEA

Rudgea corocoroensis Steyermark, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: 5–8 km NW of Yutajé settlement, 3 km west of Río Coro Coro, along stream on south slope below plateau, E side of unnamed peak, W of Serranía Yutajé, 5°40'N, 66°9'W, 700–1,000 m, 10 Mar. 1987, R. Liesner & B. Holst 21827 (holotype, MO; isotype, VEN).

Arbor 4-metralis; stipularum vaginis 2–3 mm longis glabris apice vel infra apicem aculeis 5–7 rigidis 2–4 mm longis munitis; foliis anguste oblongo-lanceolatis apice acutis vel subobtusis basi obtusis vel subobtusis glabris; nervis lateralibus utroque latere 10–11 valde adscendentibus; venatio tertiaria obsoleta vel inconspicua; petiolis 3–7 mm longis glabris. Inflorescentia terminali thyrsoido-paniculata pedunculo excluso 2–3 cm longa 1.5–2 cm lata, seriebus verticalibus tribus principalibus ordinatis, axibus infimis 4–5-verticillatis 4–8 mm longis dense pilosulis, aliis brevioribus; pedunculo 2–2.5 cm longo pilosulo; bracteis quattuor sub verticillo infimo suborbicularibus 3 × 3 mm marginibus ciliolatis; quoque axe in flores 6–7 aggregatos sessiles desinenti; bractea involucrali ciliolata patenti sub basi florum; pedunculo 2–2.5 cm longo pilosulo; hypanthio brevicampanulato 1 mm longo 1.5 mm lato; calycis tubo 2 mm longo 1 mm lato glabro, lobis 4–5 inaequalibus lanceolatis subacutis vel obtusis majoribus 1.2–1.8 mm longis 0.7 mm latis, brevioribus 1 mm longis

dense ciliolatis; corolla infundibuliformi, tubo 2 mm longo orificio deorsumque 1 mm dense pilosulo extus glabro; lobis quinque lanceolatis-oblongis acutis 4 mm longis 1.2 mm latis extus glabris intus dense minuteque papillatis; staminibus paullo exsertis, antheris 1.2 mm longis.

Tree 4 m tall. Branchlets glabrous. Stipular sheath 2–3 mm long, glabrous, with 5–7 rigid aculeae arising at or just below the sheath summit. Leaf blade subcoriaceous, narrowly oblong-lanceolate, acute or obtuse at apex, obtuse to subobtuse at base, 7–10 cm long, 2–4 cm wide, glabrous on both sides, slightly revolute; lateral nerves 10–11 on each side, strongly ascending, scarcely anastomosing; tertiary venation obsolete or inconspicuous. Petiole 3–7 mm long, glabrous. Inflorescence terminal, pedunculate, thyrsoid-paniculate, 2–3 cm long excluding the peduncle, 1.5–2 cm wide, in 3 main verticillate tiers, the lowest tier 12–17 mm distant below the middle tier; lowest axes 4–5-verticillate, 4–8 mm long, densely pilosulous, the other verticels with shorter axes; each axis subtended by spreading, glabrous, ciliolate involucrel bract, terminating in a congested group of 6–7 sessile flowers. Peduncle 2–2.5 cm long, pilosulous, 4 suborbicular bracts 3 × 3 mm subtending base of main lowest verticels. Hypanthium short-campanulate, 1 mm long, 1.5 mm wide, glabrous. Calyx tube 2 mm long, 1 mm wide, glabrous. Calyx lobes 4–5, unequal, lanceolate, subacute to obtuse, the longer lobes 1.2–1.8 mm long, 0.7 mm wide, the shorter 1 mm long, densely ciliolate. Corolla white, subinfundibuliform, the tube 2 mm long, 1.5 mm wide at base, 2 mm wide above, densely pilose at orifice and 1 mm downward; lobes 5, lanceolate-oblong, acute with involute tip, 4 mm long, 1.2 mm wide, glabrous without, densely minutely gray papillate within. Stamens 5, slightly exserted, anthers 1.2 mm long; filaments 0.8 mm long, glabrous. Style 8 mm long, scabridulous-papillate, stigmas 2, 0.8 mm long.

This taxon is related to *Rudgea morichensis* Steyermark from which it differs in the glabrous hypanthium, conspicuously lobed calyx, much shorter corolla tube, and shorter anthers. From *R. bolivarensis* Steyermark it is

distinguished by the lanceolate, longer calyx lobes and by the narrower, oblong-lanceolate leaf blades with shorter petioles.

SABICEA

Sabicea bariensis Steyermark, sp. nov.
TYPE: Venezuela. Territorio Federal Amazonas: upper Río Baria, mostly non-inundated area along riverside, 0°55'N, 66°16'W, 140 m, 9 May 1984, A. Gentry & B. Stein 47314 (holotype, MO; isotype, VEN).

Planta scandens, caulibus strigosis; foliorum laminis elliptico-ovatis apice subacuminatis basi acutis majoribus 11–13 cm longis 5.5–7 cm latis supra sparsim puberulis, costa media nervisque strigosis, subtus praeter costam mediam nervisque strigosis plerumque glabris; inflorescentia pedunculata 20–30-flora trichotome ramosa 2.3 cm longa 3.5 cm lata; floribus pedicellatis, pedicellis 3–5 mm longis; calycis lobis inaequalibus, majoribus ovatis acuminatis 3–4.5 mm longis 1.5–2.5 mm latis extus adpresso-pubescentibus intus glabris infra sinum squamellis duabus munitis.

Vine with strigose pubescent stems. Leaves firmly membranous, elliptic-ovate, subacuminate at apex, acute at base, the larger leaf blades 11–13 cm long, 5.5–7 cm wide, sparsely puberulous above, the midrib and lateral nerves strigose, the lower surface mainly glabrous except for strigillose midrib, the margins appressed-ciliolate; lateral nerves 10 each side, arcuate-ascending at 50–60° angle, impressed above, subelevated below; tertiary venation slightly evident, transversely connecting the secondary nerves; petioles 2–3.5 cm long, strigillose. Stipule reflexed, ovate, acute to acuminate, 10–12 mm long, 6–6.5 mm wide, strigose without, glabrous within. Inflorescence pedunculate, bracteate, 20–30-flowered, cymosely trichotomously branched, 2.3 cm long, 3.5 cm wide. Peduncle 4–5 mm long, densely antrorsely strigose. Lower axes of inflorescence 1.7 cm long with the flowers ca. 10-flowered. Lowest bracts subtending lowest axes of inflorescence 7–9 mm long, 3 mm wide, connate at their bases, divaricate, sparsely appressed-pubescent without, glabrous within; bracts subtending other axes paired, 7 mm long, 2 mm wide, appressed-pubescent without. Flowers on pedicels 3–5

mm long, these densely appressed pubescent. Calyx and hypanthium 5–7(–9.5) mm long, appressed-pubescent; hypanthium longer than the calyx lobes, 3.5–5.5 mm long, glabrous within; calyx lobes unequal, 4 larger and 1 smaller, the large ones erect-spreading, ovate, acuminate, 3–4.5 mm long, 1.5–2.5 mm toward the base, appressed-pubescent without, glabrous within, the smallest one 1.5 mm long, 1 mm wide, 2 unequal, elongate, dark squamellae situated below sinus of calyx lobes. Corolla narrowly cylindrical, salverform, 14.5 mm long, the tube 10.5 mm long, 1.8 mm wide, densely antrorsely appressed pubescent without, glabrous within; 5 lobes lanceolate-ligulate, acute, 4 mm long, 1 mm wide at

base, densely sericeous without, glabrous within. Anthers 2.8 mm long.

Paratypes. VENEZUELA. TERRITORIO FEDERAL AMAZONAS: 3–4 km upstream from Neblina Base Camp, gravel banks of main channel of Río Mawarinuma, 0°50'N, 66°10'W, 180 m, 4 Dec. 1984, *Kral 71981* (MO, VDB, VEN); upper Caño Baria, swampy area between Río Mawarinuma and headwaters of Río Baria, 0°52'N, 66°15'W, 130 m, 26 Mar. 1984, *Liesner 16967* (MO, VEN).

From other pedunculate species this differs from *Sabicea grandiflora* Steyermark. in the larger calyx lobes, nonarachnoid pubescence of the leaves, and divaricately spreading calyx lobes. From *S. morillorum* Steyermark. it is mainly distinguished by its nonarachnoid pubescence.